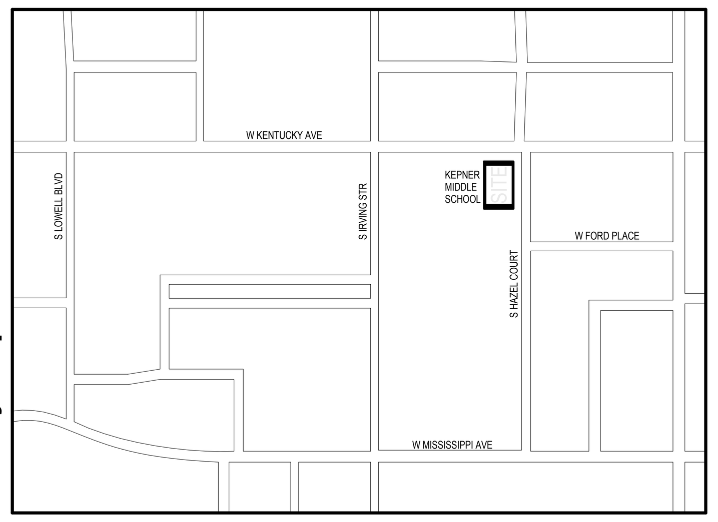
KEPNER MIDDLE SCHOOL
GENERAL RENOVATIONS

911 S. HAZEL COURT
DENVER, CO 80219

Project Image



Vicinity Map

Contacts

Owner

Name: Denver Public Schools
Contact: Tonia Toca
Address: 1617 S. Acoma St
Denver, CO 80223
Phone: 720.423.1922
FAX: (###) ###-####
E-Mail: TONIA_HOBAUGH-TOCA@dpsk12.org

Architect

Name: Cuningham Group Architecture
Contact: Kari-Elin Mock
Morayma Salas
Alan Doggett
Address: 601 S. Broadway, Suite N
Denver, CO
80203
Phone: 303 861 1600
FAX: 303 861 1602
E-Mail: KMOCK@CUNINGHAM.COM

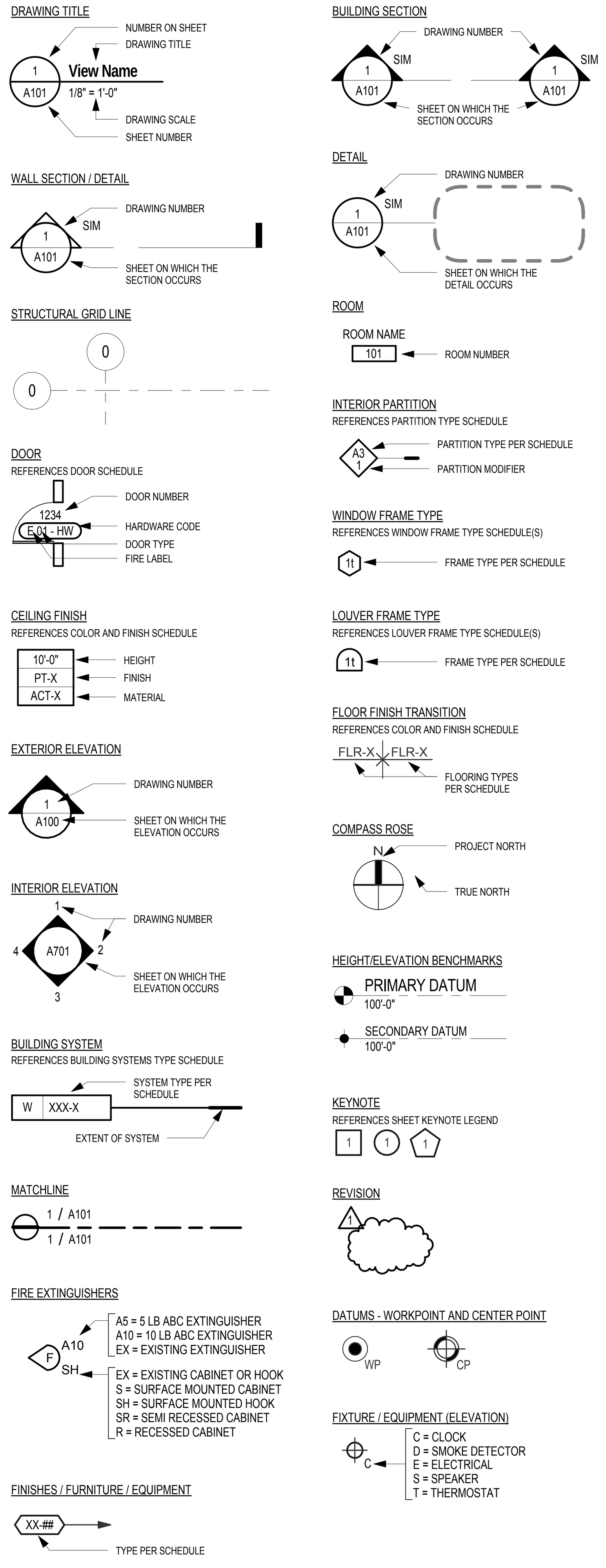
Mechanical, Electrical, Plumbing

Name: ME Group
Contact: Jeff Visnic
Mike Banks
Paul Plewczynski
Address: 707 17TH STREET, #3000
DENVER, CO
80202
Phone: 303.382.1920
FAX: (###) ###-####
E-Mail: JEFF.VISNIC@MEGROUP.COM

Structural

Name: HCL Engineering & Surverying, Inc.
Contact: Chris Chen
Address: 9570 Kingston Court, Suite 310
Englewood, CO 80112
Phone: 303.773.1605
FAX: (###) ###-####
E-Mail: cchen@hclengineering.com

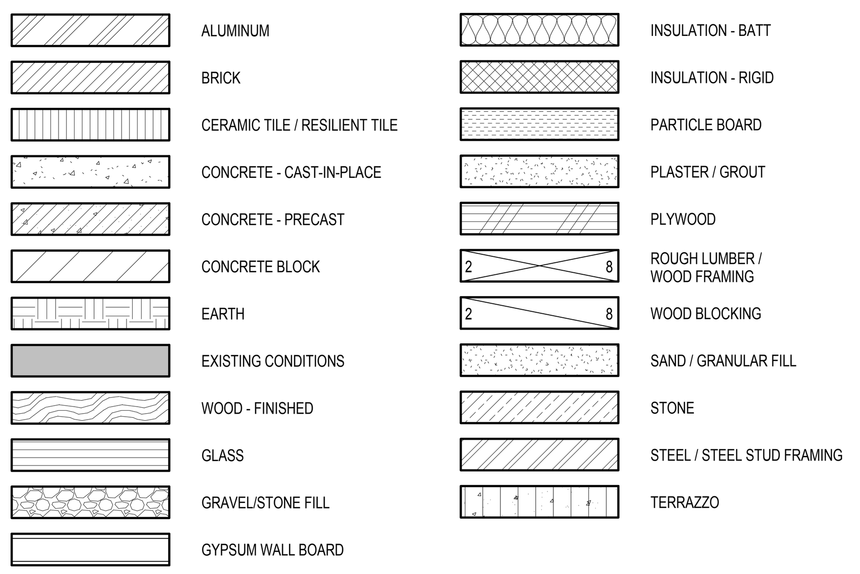
Graphic Symbols



Abbreviations

AB	AIR BARRIER
AC	ACCESSORY
ACP	ACOUSTICAL CEILING PANEL
ACR	ACRYLIC
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADH	ADHERE
AFF	ABOVE FINISHED FLOOR
ALB	ALUMINUM BASE
ALT	ALTERNATIVE / ALTERNATE
ALUM	ALUMINUM
AR	ARTWORK
ARCH	ARCHITECT
AWT	ACOUSTICAL WALL TREATMENT
BLKG	BLOCKING
BO	BOTTOM OF
BRG	BEARING
BRK	BRICK
BT	TABLE BASE
CB	CHALK BOARD
CCF	COLUMN COVER FINISH
CF	CUSTOM FABRICATION
CF/OI	CONTRACTOR FURNISHED / OWNER INSTALLED
CG	CORNER GUARD
CGA	CUNINGHAM GROUP ARCHITECTURE, INC.
CH	CHAIR
CJ	CONTROL JOINT
CK	CORK
CL	CENTER LINE
CLR	CLEAR(ANCE)
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS / CONTINUE
CP	COMPOSITE PANEL
CPT	CARPET(ED)
CPTB	CARPET BASE
CPTT	CARPET TILE
CT	CERAMIC / PORCELAIN TILE
CTB	CERAMIC TILE BASE
DEC	DECORATIVE CONCRETE
DF	DRINKING FOUNTAIN
DG	DECORATIVE GLASS
DIA	DIAMETER
DIV	DIVISION
DN	DOWN
DRP	DRAPERY/CURTAINS
DWGS	DRAWINGS
(E) / EXIST	EXISTING
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
EPOX	EPOXY PAINT
EQ	EQUAL
EWC	ELECTRICAL WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
FD	FLOOR DRAIN
FE / FEC	FIRE EXTINGUISHER (CABINET)
FF / FFE	FINISH FLOOR (ELEVATION)
FF&E	FIXTURES, FURNISHINGS & EQUIPMENT
FIN	FINISH
FL / FLR	FLOOR(ING)
FOEW	FACE OF EXISTING WALL
FOS	FACE OF STUD
FRP	FIBERGLASS REINFORCED WALL PANEL
GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS, GLAZING
GMU	GLAZED MASONRY UNIT
GT	GLASS TILE
GWT	GLAZED WALL TILE
GYP	GYPSUM
HB	HOSE BIBB
HDBD	HARDBOARD
HDWD	HARD WOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HSS	HOLLOW STEEL SECTION
INSUL	INSULATION
INT	INTERIOR
IWB	INTERACTIVE WHITE BOARD
L	LIGHT FIXTURE
LIN	LINOLEUM
LMC	LINEAR METAL CEILING
LWC	LINEAR WOOD CEILING
MAS	MASONRY
MAT	INSET CARPET/WALK-OFF MAT
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MG	METAL GRATE
MIN	MINIMUM
MIR	MIRROR(ED)
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
(N)	NEW
NA	NOT APPLICABLE
OC	ON CENTER(S)
OD	OUTSIDE DIAMETER
OF/CI	OWNER FURNISHED / CONTRACTOR INSTALLED
OF/OI	OWNER FURNISHED / OWNER INSTALLED
OFRD	OVERFLOW ROOF DRAIN
OFS	OVERFLOW SCUPPER
OH	OVERHEAD
OPNG	OPENING
OZ	OUNCE
PARTBD	PARTICLEBOARD
PL	PLATE
PLAM	PLASTIC LAMINATE
PLY	PLYWOOD
PME	PATCH TO MATCH EXISTING
PNL	PANEL
PREFIN	PREFINISHED
PRV	POWER ROOF VENTILATOR
PT	PAINT(ED)
QT	QUARRY TILE
QTB	QUARRY TILE BASE
QTY	QUANTITY
R	RISER
RAD	RADIUS
RB	RUBBER BASE / RESILIENT BASE
RD	ROOF DRAIN
REF	REFERENCE / REFER TO
REQD	REQUIRED
RES	EPOXY RESIN FLOORING
RESB	EPOXY RESIN FLOORING BASE
RFL	RUBBER FLOOR / RESILIENT FLOORING
RO	ROUGH OPENING
RT	RESILIENT TILE
RTR	RESILIENT TRANSITION STRIP
RTU	ROOF TOP UNIT
RW	REFINISHED WOOD
S	SEATING
SC	SEALED CONCRETE
SF	SQUARE FOOT/FEET
SIM	SIMILAR
SP	SPECIALTY FINISH
SPF	SPRAY POLYURETHANE FOAM
SPT	SPECIAL PAINT
SS	STAINLESS STEEL
SSF	SOLID SURFACE
ST	STAIN
STC	STAINED CONCRETE
STN	STONE
STNB	STONE BASE
STNV	STONE VENEER
SUSP	SUSPENDED
SV	SHEET VINYL
SYST	SYSTEM
T	TREAD / TABLE
T&G	TONGUE AND GROOVE
TA	TABLE
TB	TACKBOARD
TEP	TRANSITION EDGE PROFILE
TERB	TERRAZZO BASE
TERR	TERRAZZO
TEX	TEXTURE
TF	TENSION FABRIC
TFC	TEXTURED FINISH CEILING
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOD	TOP OF DECK
TOF	TOP OF FOOTING
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPART	TOILET PARTITION
TT	TERRAZZO TILE
TYP	TYPICAL
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPH	UPHOLSTERY
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
VIN	VINYL
VNR	VENEER
VP	VENEER PLASTER
VR	VAPOR RETARDER
VSE	VENEER SHELF ELEVATION
VT	VINYL TILE
VWC	VINYL WALL COVERING
WB	WHITE BOARD
WC	WALL COVERING
WD	WOOD
WDB	WOOD BASE
WDV	WOOD VENEER
WDW	WINDOW
WF	WOOD FLOORING
WP	WORK POINT
WPT	WALL PROTECTION
WT	WINDOW TREATMENT
WWC	WOOD WALLCOVERING
XPS	EXTRUDED POLYSTYRENE
#	NUMBER / POUND
&	AND
@	AT

Materials



Interior Partition Types

General Interior Partition Notes

1. PARTITION TO EXTEND TO STRUCTURE ABOVE OR EQUIVALENT UNLESS NOTED OTHERWISE.

2. PROVIDE FIRE RATED GYPSUM BOARD IN LIEU OF STANDARD GYPSUM BOARD AT FIRE RATED CONDITIONS.

3. PROVIDE MOISTURE RESISTANT (OR TILE BACKER BOARD AT WALL TILE LOCATIONS) IN LIEU OF STANDARD GYPSUM BOARD AT RESTROOMS AND/OR CUSTODIAL AREAS.

Symbol Legend

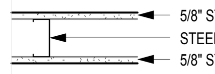
A3	PARTITION TYPE
1	MODIFIER
NA	NOT AVAILABLE
UL#	UNDERWRITERS LABORATORY (UL) FIRE RESISTANCE DESIGN NUMBER

Modifier Legend

A	ACOUSTICALLY RATED PARTITION - PROVIDE SOUND ATTENUATION INSULATION
B	NON RATED, EXTEND 6" ABOVE SUSPENDED CEILING, BRACE TO STRUCTURE ABOVE
C	NON RATED, EXTEND TO BOTTOM OF SUSPENDED CEILING ABOVE
T	THERMALLY RATED PARTITION - PROVIDE NON FACED R-XX THERMAL INSULATION
1	1 HOUR FIRE RATED PARTITION - SEE PARTITION TYPE FOR UL FIRE RESISTANCE DESIGN NUMBER
2	2 HOUR FIRE RATED PARTITION - SEE PARTITION TYPE FOR UL FIRE RESISTANCE DESIGN NUMBER
3	3 HOUR FIRE RATED PARTITION - SEE PARTITION TYPE FOR UL FIRE RESISTANCE DESIGN NUMBER
4	4 HOUR FIRE RATED PARTITION - SEE PARTITION TYPE FOR UL FIRE RESISTANCE DESIGN NUMBER
X' - X"	PARTIAL HEIGHT PARTITION - SEE FLOOR PLAN FOR PARTITION HEIGHT

Interior Partition Types

A 1 LAYER GWB EACH SIDE



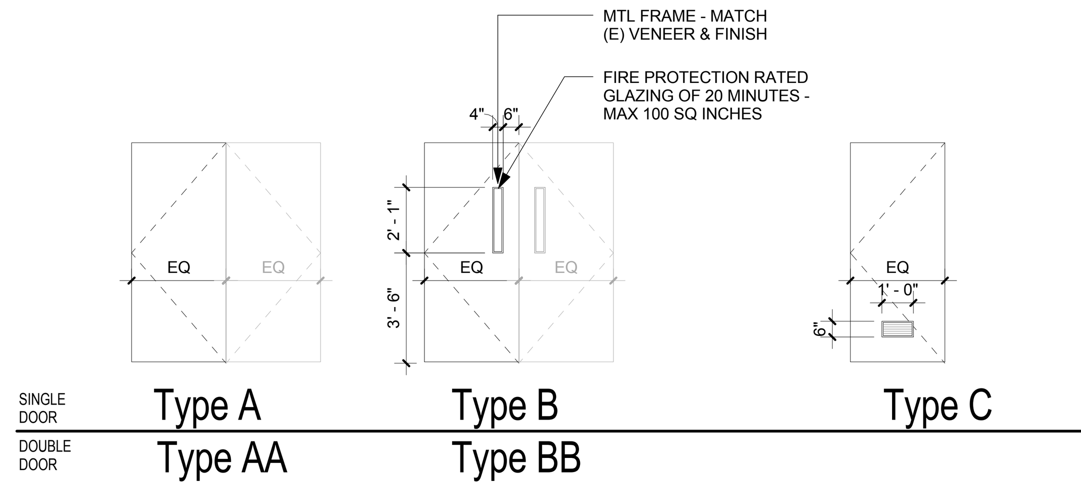
PARTITION TYPE	STUD WIDTH	ASSEMBLY WIDTH
A3	3 5/8"	4 7/8"
A4	4"	5 1/4"
A6	6"	7 1/4"

FIRE RESISTANCE	
1	UL#: U451
2	NA
4	NA

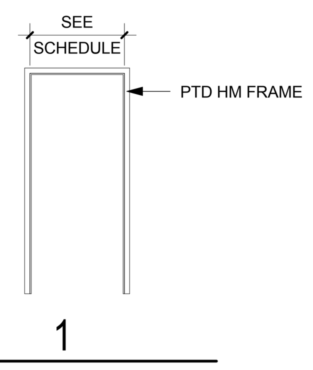
ADD ALTERNATES

ADD ALT. 1: PROVIDE A NEW WASHER AND DRYER ROOM 000BA WITHIN THE (E) ROOM 000B. WORK INCLUDES NEW PARTITION WALLS, ELECTRICAL, PLUMBING, CASEWORK, H.M. FRAME, WD. DOOR, FLOOR FINISH, RUBBER BASE, PAINTING, AND PATCH/REPAIR OF EXISTING ADJACENT SURFACES. REFER TO DRAWINGS 2/R001, 3/R001, 2/M190, AND 3/E100 FOR WORK TO BE PERFORMED. NEW WASHER AND DRYER ARE TO BE O.F.C.I. BASE BID: NO WORK IS TO BE PERFORMED IN THIS AREA.

ADD ALT. 2: - IN VESTIBULE 128A, CREATE A NEW STORAGE ROOM 128AA, BY INSTALLING A NEW 1 HOUR RATED MTL. STUD PARTITION WALL, H.M. DOOR FRAME, AND WD DOOR. PROVIDE NEW MATCHING RUBBER BASE AT NEW WALL. MODIFY LIGHT FIXTURES SWITCH TO PROVIDE SEPARATE SWITCHING OF THE STORAGE ROOM SEPARATE FROM THE VESTIBULE. PERFORM NECESSARY PATCH AND REPAIR WORK OF ADJACENT SURFACES. DO NOT INCLUDE CABINET DOOR LOCKS. SEE DRAWING 3/A190 AND 5/A190 FOR WORK TO BE PERFORMED. BASE BID: DO NOT INSTALL PARTITION WALL, DOOR, AND FRAME. PERFORM ALL OTHER WORK SHOWN ON DWGS 3/A190 AND 5/A190. INSTALL LOCKS ON ALL REMAINING CABINET DOORS.



Panel Elevations
1/4" = 1'-0"



Frame Types
1/4" = 1'-0"

Sheet Index

SD/DD Submittal	Pre CD Set	Construction Documents	Issue for Bid and Construction	Drawing Number	Sheet Number	Sheet Name
General						
●	●	●	●	G001	1	GENERAL INFORMATION
●	●	●	●	R001	2	BASEMENT - CODE AND SCOPE PLAN
●	●	●	●	R100	3	FIRST FLOOR - CODE AND SCOPE PLAN
●	●	●	●	R110	4	SECOND FLOOR - CODE AND SCOPE PLAN
Architectural						
●	●	●	●	A010	5	SITE PLAN
●	●	●	●	A190	6	ENLARGED FLOOR PLANS - ADA ACCESS
●	●	●	●	A191	7	ENLARGED FLOOR PLANS - SCIENCE CLASSROOMS
○	○	●	●	A-192	8	ENLARGED FLOOR PLANS, ROOM FINISH SCHEDULE
○	○	●	●	A-193	9	FIRE DAMPER LOCATIONS
Mechanical						
●	●	●	●	M001	10	MECHANICAL LEGEND AND NOTES
●	●	●	●	M190	11	ENLARGED MECHANICAL PLANS
●	●	●	●	M191	12	ENLARGED MECHANICAL SCIENCE ROOM PLANS
○	●	●	●	M192	13	ENLARGED MECHANICAL SCIENCE ROOM PLANS
○	●	●	●	M193	14	ENLARGED MECHANICAL PLANS - TRANSFER DUCTS
○	●	●	●	M194	15	MECHANICAL ROOF DEMO AND NEW PLAN
○	○	●	●	M400	16	SCHEDULES AND DETAILS
ELECTRICAL						
●	●	●	●	E001	17	ELECTRICAL LEGEND AND NOTES
●	●	●	●	E100	18	BASEMENT PARTIAL POWER PLAN
●	●	●	●	E110	19	LEVEL 1 PARTIAL POWER PLAN
●	●	●	●	E120	20	LEVEL 2 PARTIAL POWER PLAN
○	●	●	●	E121	21	LEVEL 2 PARTIAL POWER PLAN
●	●	●	●	E191	22	ENLARGED ELECTRICAL SCIENCE ROOM PLANS
○	○	●	●	E400	23	ELECTRICAL ONE LINE DIAGRAM

Property Description

EXISTING SCHOOL BUILDING - ADA UPGRADES, SCIENCE CLASSROOM UPGRADES, HEAT MITIGATION, BOILER REPLACEMENT, OTHER MINOR UPGRADES.

Project Description

GOVERNING CODE:	2009 IBC WITH CITY AMENDMENTS 2011 NATIONAL ELECTRICAL CODE
BUILDING TYPE:	TYPE II A
PRIMARY OCCUPANCY TYPE:	GROUP E
REMODELING (SF):	REFER TO SHEETS R001, R100, R110
CONSTRUCTION MATERIALS:	CONCRETE, MASONRY
PROGRAM DESCRIPTION:	ADA AND CODE VERIFICATION/REVISIONS, UPDATE TO SCIENCE CLASSROOMS
YEAR BUILT:	1951, 1952, 1953, 1992, 2000
FIRE SPRINKLER:	NON-SPRINKLERED

Phasing Legend

EXISTING WALL
NEW WALL
DEMOLISHED WALL
EXISTING OBJECT
NEW OBJECT
DEMOLISHED OBJECT

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

APPROVED CONTRACT DOCUMENT

DATE:

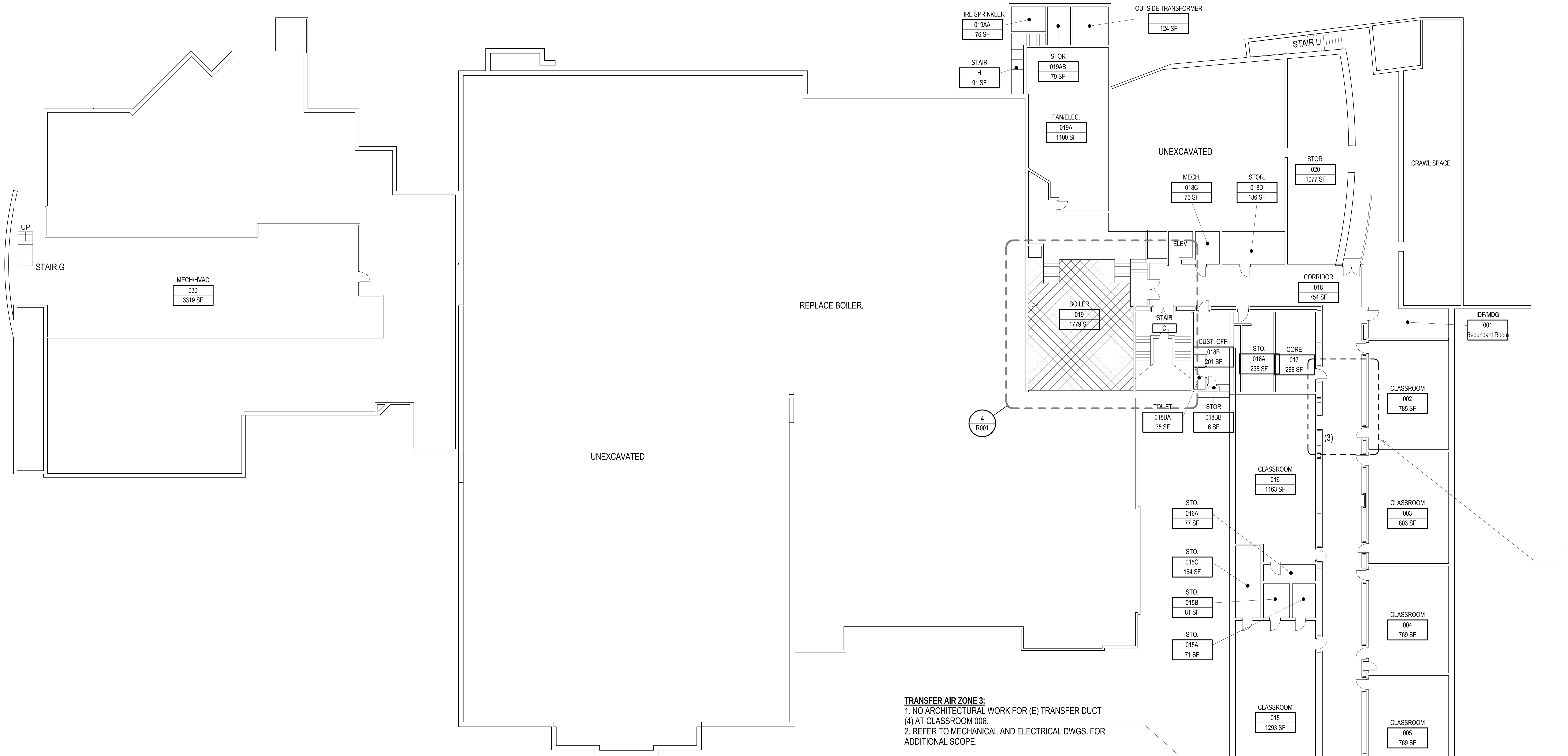
DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

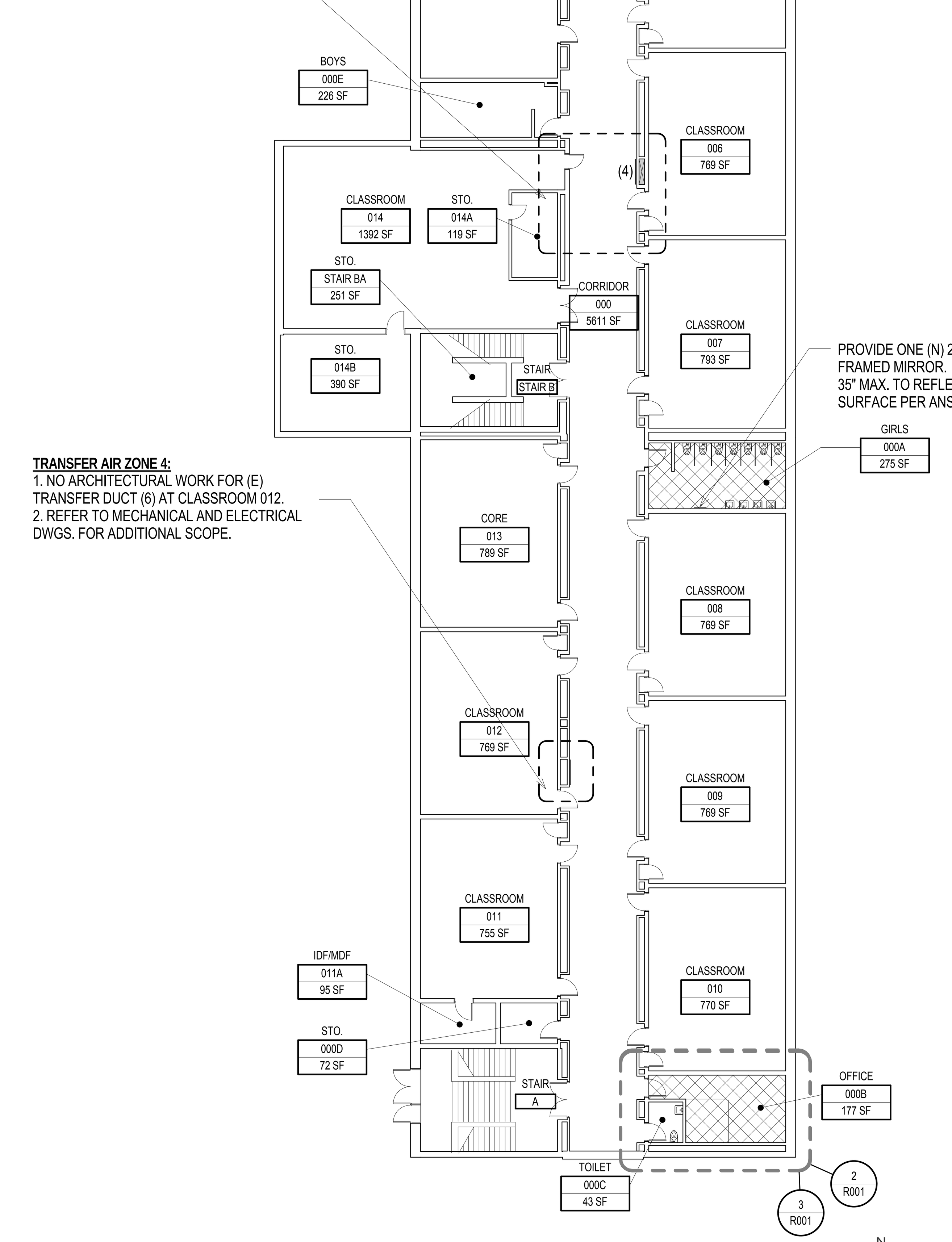
GENERAL INFORMATION

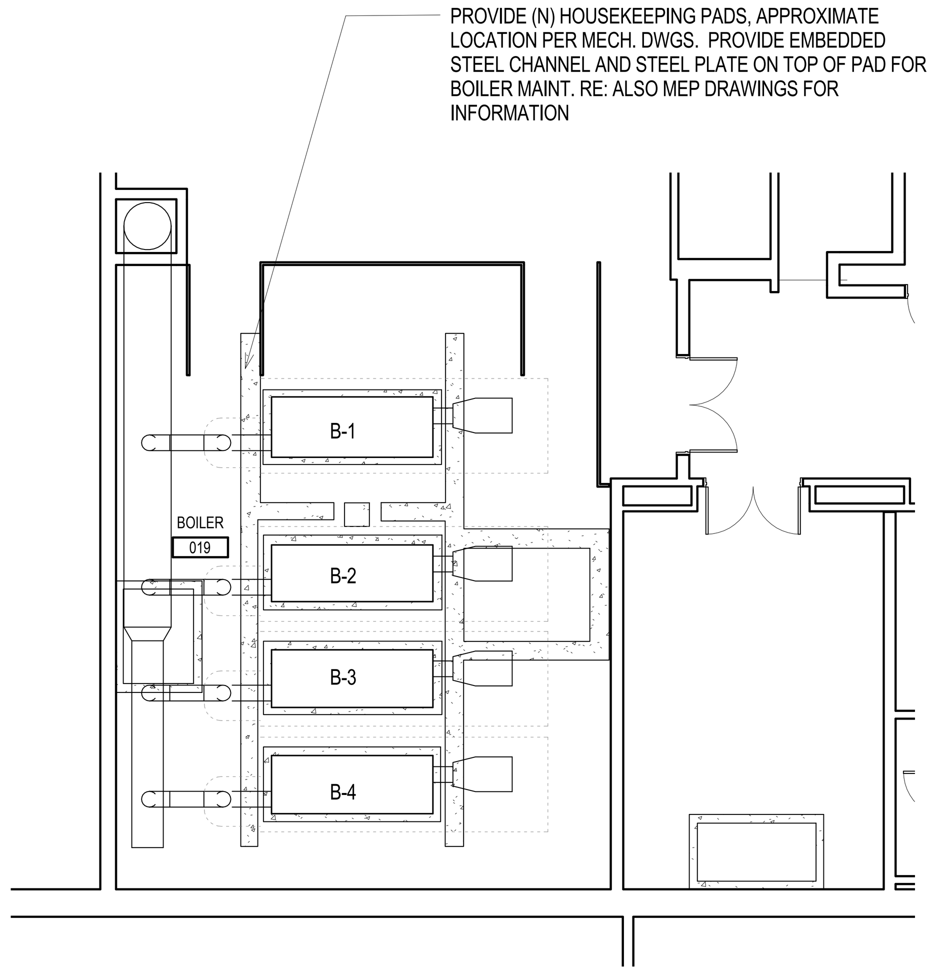
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

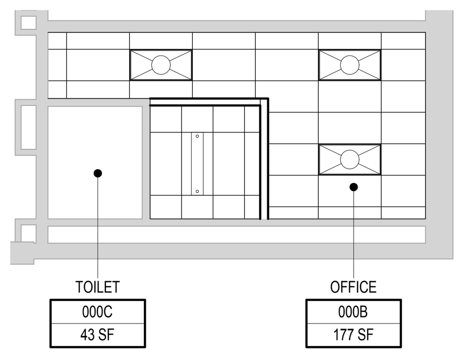
DWG NO. G001



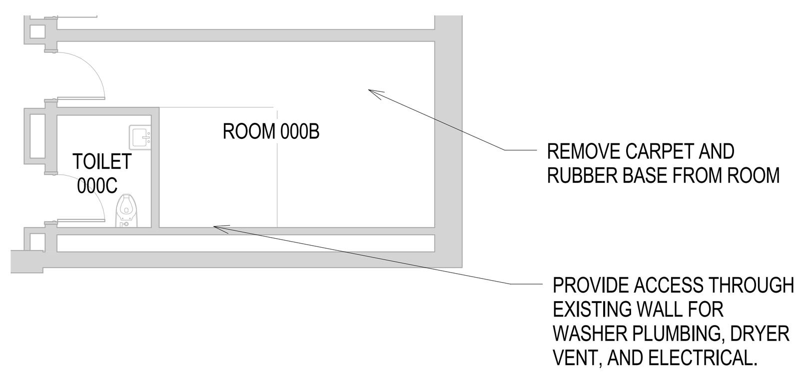




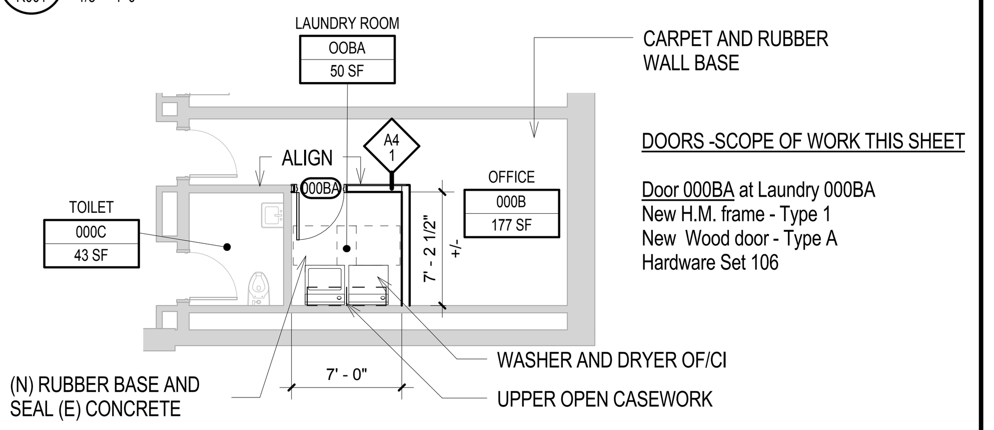
4 R001 BASEMENT LEVEL - BOILER ROOM
1/8" = 1'-0"



5 R001 BASEMENT - OFFICE 000B REFLECTED CEILING PLAN
1/8" = 1'-0"



3 R001 BASEMENT LEVEL - ROOM 000B, DEMOLITION PLAN
1/8" = 1'-0"



DOORS -SCOPE OF WORK THIS SHEET

Door 000BA at Laundry 000BA
New H.M. frame - Type 1
New Wood door - Type A
Hardware Set 106

2 R001 BASEMENT LEVEL - ROOM 000B NEW CONSTRUCTION
1/8" = 1'-0"

ADD ALTERNATE #1 - DWG'S 2/R001, 3/R001, 5/ROO1

1 R001 BASEMENT - CODE AND SCOPE PLAN
1/16" = 1'-0"

PROJECT SCOPE

ARCHITECTURAL

1. REMODEL ONE PAIR OF CLASSROOMS (219/220) INTO SCIENCE LABRATORY.
2. REMODEL ROOM 218 FOR USE AS A COMPUTER LAB.
3. PROVIDE HANDRAILS AT MAIN EXTERIOR ENTRY RAMP ON THE NORTHEAST SIDE OF THE BUILDING.
4. PROVIDE ACCESSIBLE BENCH IN BOYS' (129B) AND GIRLS' (127B) LOCKER ROOMS.
5. INSTALL MIRROR IN GIRL'S LOCKER ROOM (127B) TO COMPLY WITH ADA REQUIREMENTS 603.3
6. CHANGE DOOR SWING DIRECTION AT THE NORTH SIDE OF GYM 129.
7. PROVIDE ACCESSIBLE ENTRY AT NORTH SIDE OF GYM 127
8. PROVIDE SAFETY UPGRADES TO SCIENCE CLASSROOMS 206, 207, 208, 209, 211, 215, & 216.
9. REQUIRED DEMOLITION AND REPAIR WORK FOR INSTALLATION OF F.S.D. UNITS IN AIR TRANSFER DUCTS TO SUPPORT HEAT MITIGATION EFFORTS DESCRIBED IN M.E.P. SCOPE ITEM 1

MECHANICAL, ELECTRICAL, PLUMBING (REF: MEP DRAWINGS FOR SPECIFIC LOCATIONS AND WORK TO BE COMPLETED)

1. MECHANICAL SYSTEM IS INTENDED TO SUPPORT NIGHTTIME PURGING OF HOT AIR FROM THE BUILDING TO MAXIMIZE COOLING. REPAIR ANY HVAC EQUIPMENT USED FOR NIGHTTIME COOLING. SCOPE INCLUDES CALIBRATION OF ALL THERMOSTATS, AND AND CONFIRMATION OF PROPER ACTION OF ALL CONTROL DEVICES VERIFY THAT
2. REPAIR AND/OR PROVIDE POWERED EXHAUST FANS WHERE REQUIRED.
3. REPLACE EXIT SIGNS AT AUDITORIUM.
4. INSTALL EXIT SIGNS AT: MECHANICAL 002, MECHANICAL BOILER 121B, ELECTRIC ROOM 126, ELECTRIC ROOM 256, ROOM 335.
5. REPLACE BOILER
6. RELOCATE WASHER/DRYER TO ROOM 000B.

LEGEND:

AREAS OF PROJECT SCOPE

KEY LEGEND

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

APPROVED CONTRACT DOCUMENT

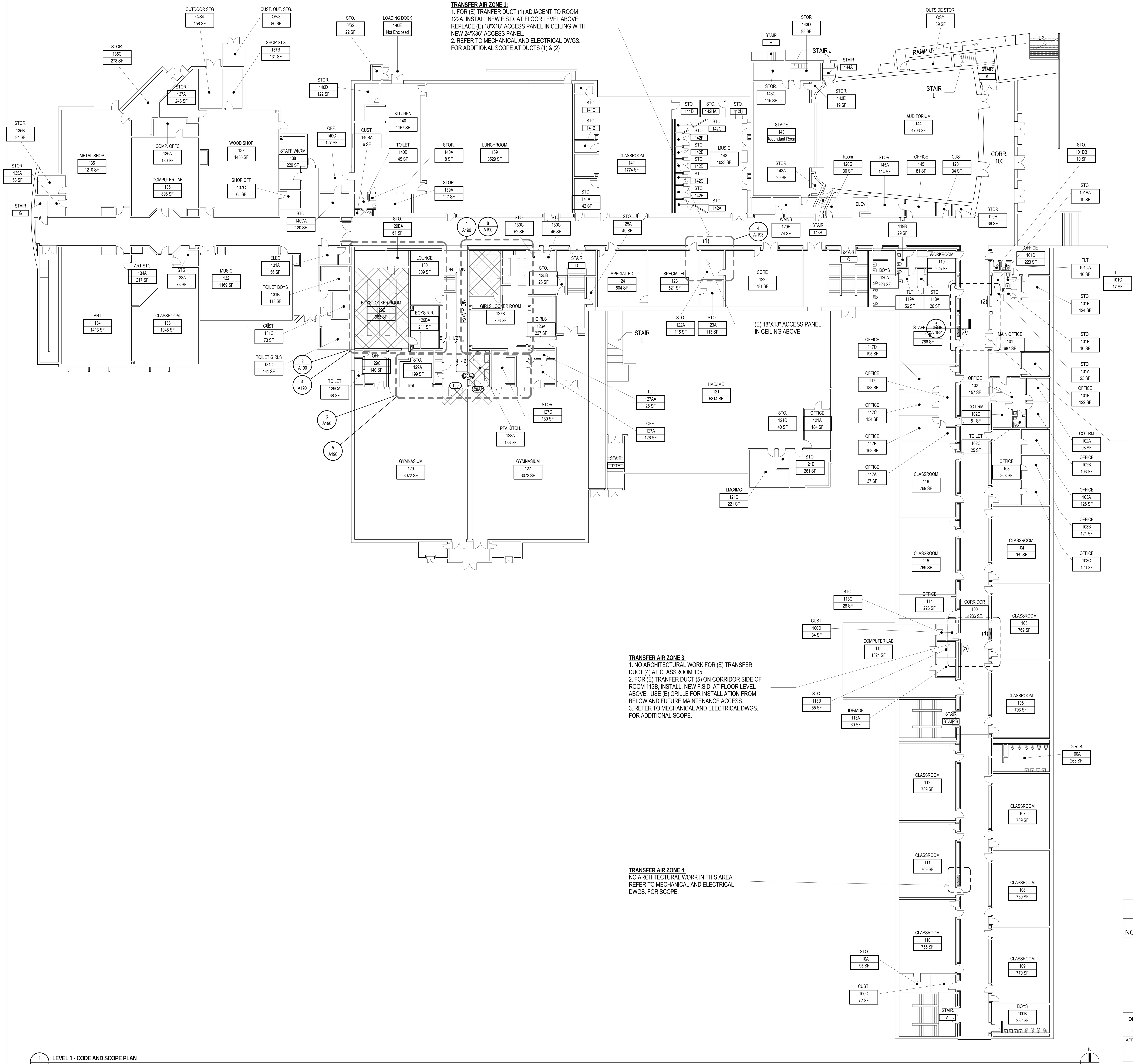
DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

BASEMENT - CODE AND SCOPE PLAN

DATE:

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602
Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. R001



TRANSFER AIR ZONE 1:
1. FOR (E) TRANFER DUCT (1) ADJACENT TO ROOM 122A, INSTALL NEW F.S.D. AT FLOOR LEVEL ABOVE. REPLACE (E) 18"X18" ACCESS PANEL IN CEILING WITH NEW 24"X36" ACCESS PANEL.
2. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE AT DUCTS (1) & (2)

TRANSFER AIR ZONE 2:
1. NO ARCHITECTURAL WORK FOR (E) TRANSFER DUCT (3) AT STAFF LOUNGE 118.
2. FOR (E) TRANFER DUCT (4) ON CORRIDOR SIDE OF MAIN OFFICE 101, INSTALL NEW F.S.D. AT FLOOR LEVEL ABOVE. USE (E) GRILLE FOR INSTALL ATION FROM BELOW AND FUTURE MAINTENANCE ACCESS.
3. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE.

TRANSFER AIR ZONE 3:
1. NO ARCHITECTURAL WORK FOR (E) TRANSFER DUCT (4) AT CLASSROOM 105.
2. FOR (E) TRANFER DUCT (5) ON CORRIDOR SIDE OF ROOM 113B, INSTALL. NEW F.S.D. AT FLOOR LEVEL ABOVE. USE (E) GRILLE FOR INSTALL ATION FROM BELOW AND FUTURE MAINTENANCE ACCESS.
3. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE.

TRANSFER AIR ZONE 4:
NO ARCHITECTURAL WORK IN THIS AREA. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR SCOPE.

1 R100 **LEVEL 1 - CODE AND SCOPE PLAN**
1/16" = 1'-0"

N

PROJECT SCOPE

ARCHITECTURAL

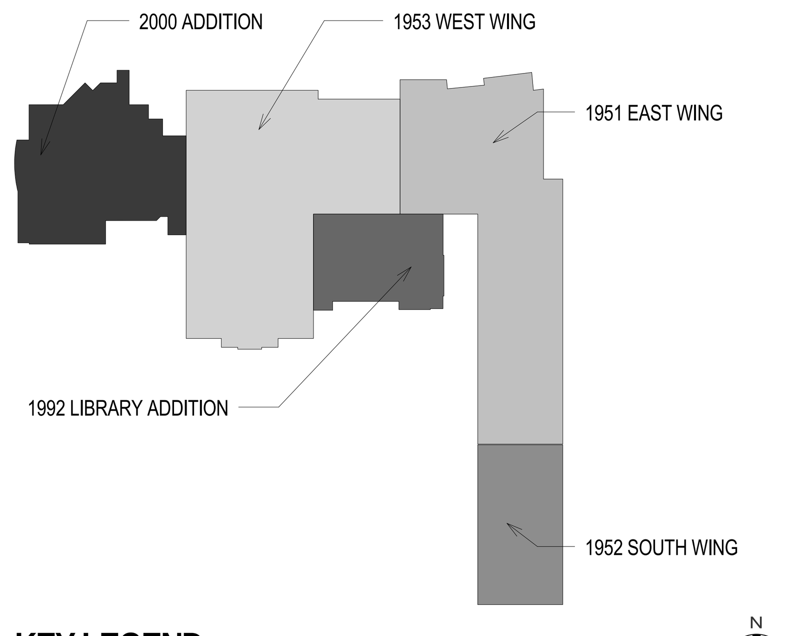
1. REMODEL ONE PAIR OF CLASSROOMS (219/220) INTO SCIENCE LABRATORY.
2. REMODEL ROOM 218 FOR USE AS A COMPUTER LAB.
3. PROVIDE HANDRAILS AT MAIN EXTERIOR ENTRY RAMP ON THE NORTHEAST SIDE OF THE BUILDING.
4. PROVIDE ACCESSIBLE BENCH IN BOYS' (129B) AND GIRLS' (127B) LOCKER ROOMS.
5. INSTALL MIRROR IN GIRL'S LOCKER ROOM (127B) TO COMPLY WITH ADA REQUIREMENTS 603.3
6. CHANGE DOOR SWING DIRECTION AT THE NORTH SIDE OF GYM 129.
7. PROVIDE ACCESSIBLE ENTRY AT NORTH SIDE OF GYM 127
8. PROVIDE SAFETY UPGRADES TO SCIENCE CLASSROOMS 206, 207, 208, 209, 211, 215, & 216.
9. REQUIRED DEMOLITION AND REPAIR WORK FOR INSTALLATION OF F.S.D. UNITS IN AIR TRANSFER DUCTS TO SUPPORT HEAT MITIGATION EFFORTS DESCRIBED IN M.E.P. SCOPE ITEM 1

MECHANICAL, ELECTRICAL, PLUMBING (REF: MEP DRAWINGS FOR SPECIFIC LOCATIONS AND WORK TO BE COMPLETED)

1. MECHANICAL SYSTEM IS INTENDED TO SUPPORT NIGHTTIME PURGING OF HOT AIR FROM THE BUILDING TO MAXIMIZE COOLING. REPAIR ANY HVAC EQUIPMENT USED FOR NIGHTTIME COOLING. SCOPE INCLUDES CALIBRATION OF ALL THERMOSTATS, AND AND CONFIRMATION OF PROPER ACTION OF ALL CONTROL DEVICES VERIFY THAT
2. REPAIR AND/OR PROVIDE POWERED EXHAUST FANS WHERE REQUIRED.
3. REPLACE EXIT SIGNS AT AUDITORIUM.
4. INSTALL EXIT SIGNS AT: MECHANICAL 002, MECHANICAL BOILER 121B, ELECTRIC ROOM 126, ELECTRIC ROOM 256, ROOM 335.
5. REPLACE BOILER
6. RELOCATE WASHER/DRYER TO ROOM 000B.

LEGEND:

AREAS OF PROJECT SCOPE



KEY LEGEND

N

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

APPROVED CONTRACT DOCUMENT

DATE:

DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

FIRST FLOOR - CODE AND SCOPE PLAN

Cuningham Group Architecture, Inc. ®
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. R100

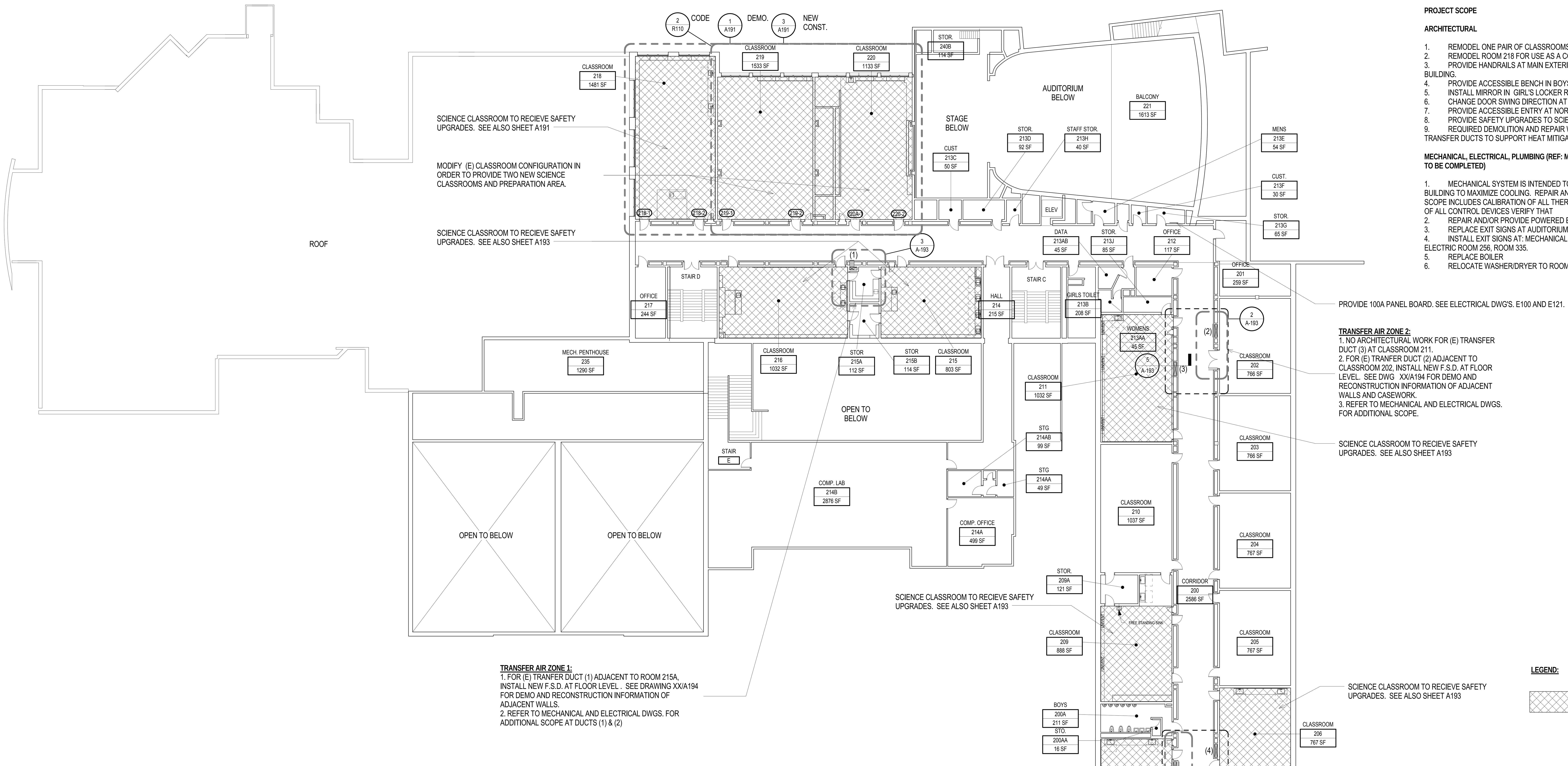
PROJECT SCOPE

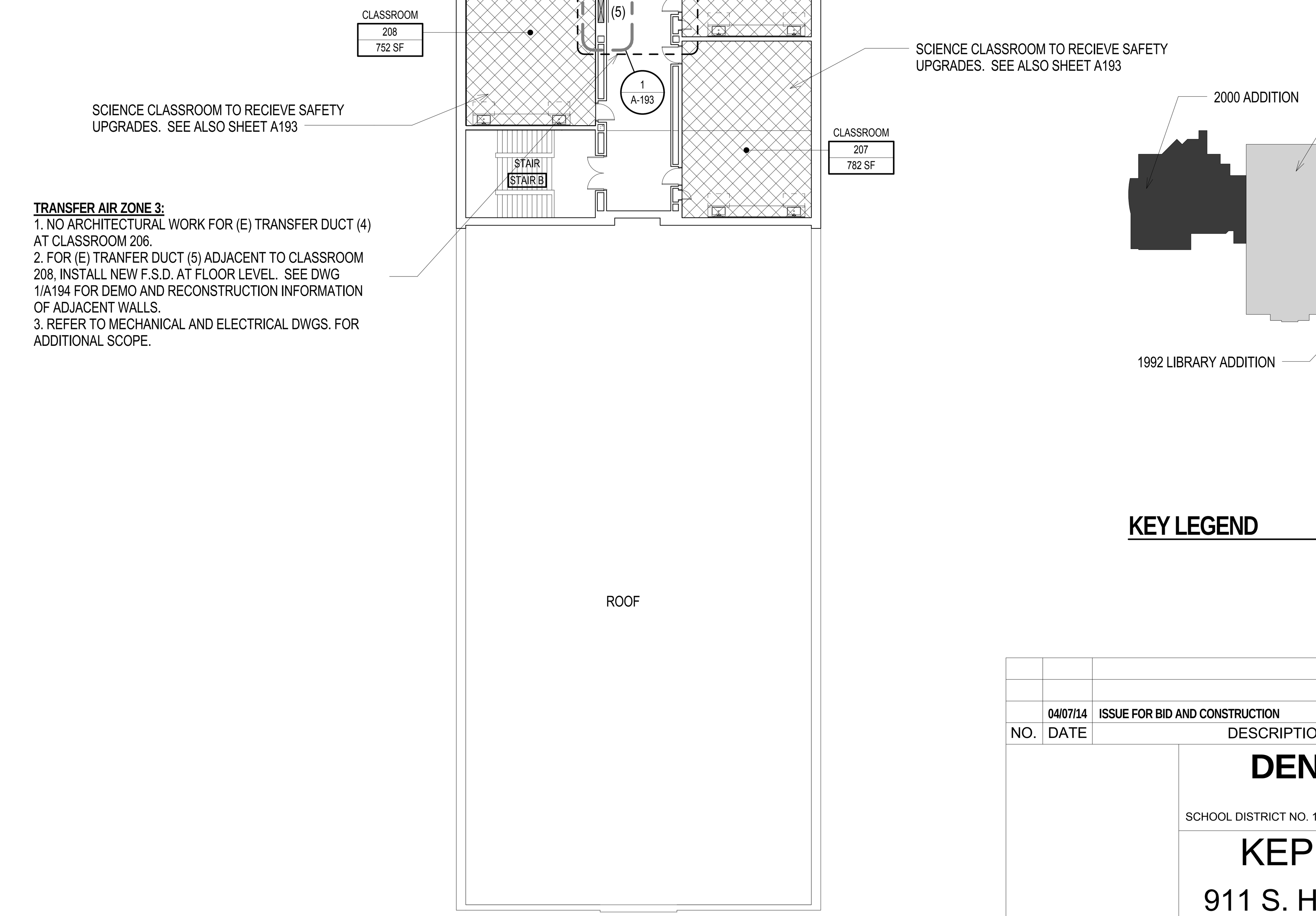
ARCHITECTURAL

1. REMODEL ONE PAIR OF CLASSROOMS (219/220) INTO SCIENCE LABRATORY.
2. REMODEL ROOM 218 FOR USE AS A COMPUTER LAB.
3. PROVIDE HANDRAILS AT MAIN EXTERIOR ENTRY RAMP ON THE NORTHEAST SIDE OF THE BUILDING.
4. PROVIDE ACCESSIBLE BENCH IN BOYS' (129B) AND GIRLS' (127B) LOCKER ROOMS.
5. INSTALL MIRROR IN GIRL'S LOCKER ROOM (127B) TO COMPLY WITH ADA REQUIREMENTS 603.3
6. CHANGE DOOR SWING DIRECTION AT THE NORTH SIDE OF GYM 129.
7. PROVIDE ACCESSIBLE ENTRY AT NORTH SIDE OF GYM 127
8. PROVIDE SAFETY UPGRADES TO SCIENCE CLASSROOMS 206, 207, 208, 209, 211, 215, & 216.
9. REQUIRED DEMOLITION AND REPAIR WORK FOR INSTALLATION OF F.S.D. UNITS IN AIR TRANSFER DUCTS TO SUPPORT HEAT MITIGATION EFFORTS DESCRIBED IN M.E.P. SCOPE ITEM 1

MECHANICAL, ELECTRICAL, PLUMBING (REF: MEP DRAWINGS FOR SPECIFIC LOCATIONS AND WORK TO BE COMPLETED)

1. MECHANICAL SYSTEM IS INTENDED TO SUPPORT NIGHTTIME PURGING OF HOT AIR FROM THE BUILDING TO MAXIMIZE COOLING. REPAIR ANY HVAC EQUIPMENT USED FOR NIGHTTIME COOLING. SCOPE INCLUDES CALIBRATION OF ALL THERMOSTATS, AND AND CONFIRMATION OF PROPER ACTION OF ALL CONTROL DEVICES VERIFY THAT
2. REPAIR AND/OR PROVIDE POWERED EXHAUST FANS WHERE REQUIRED.
3. REPLACE EXIT SIGNS AT AUDITORIUM.
4. INSTALL EXIT SIGNS AT: MECHANICAL 002, MECHANICAL BOILER 121B, ELECTRIC ROOM 126, ELECTRIC ROOM 256, ROOM 335.
5. REPLACE BOILER
6. RELOCATE WASHER/DRYER TO ROOM 000B.

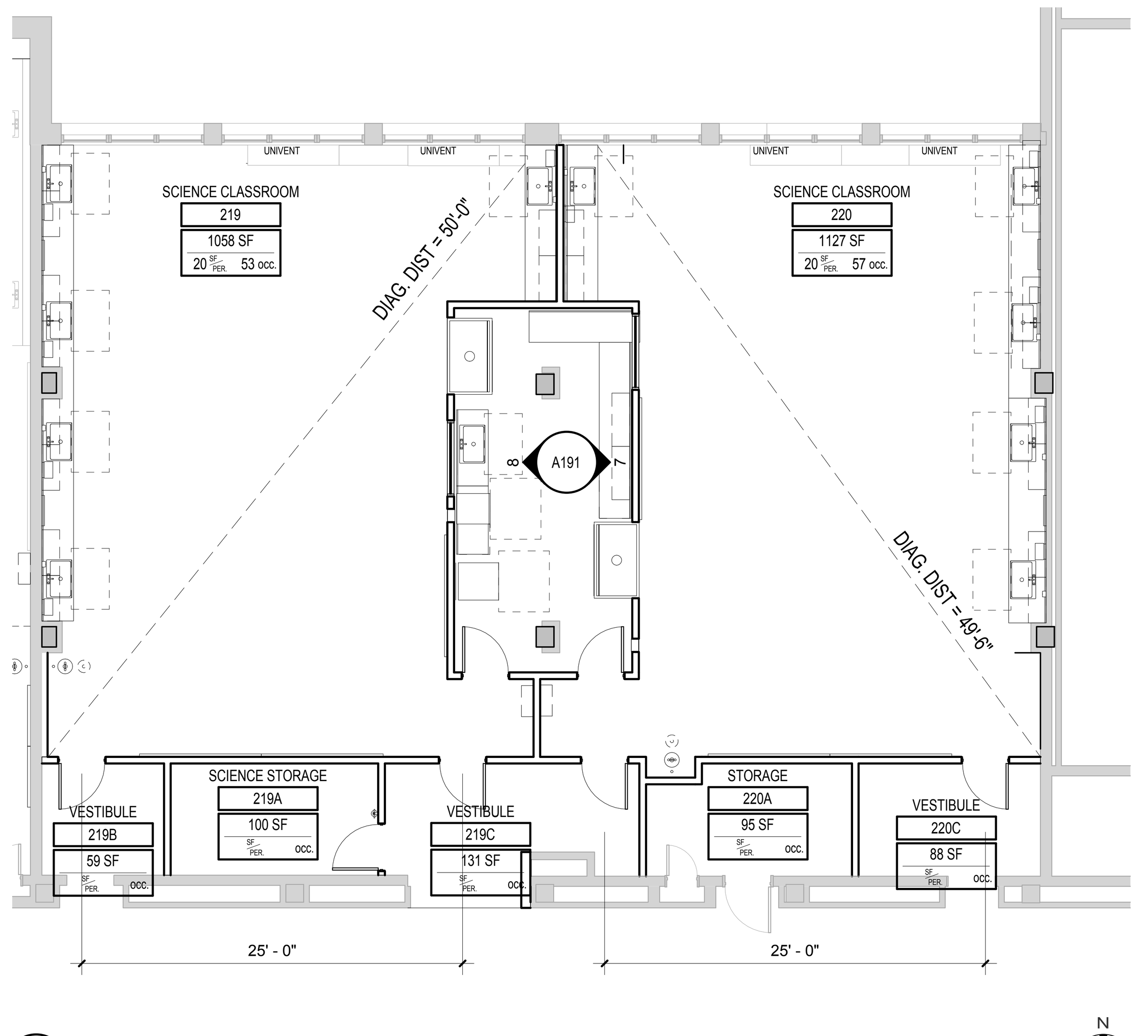




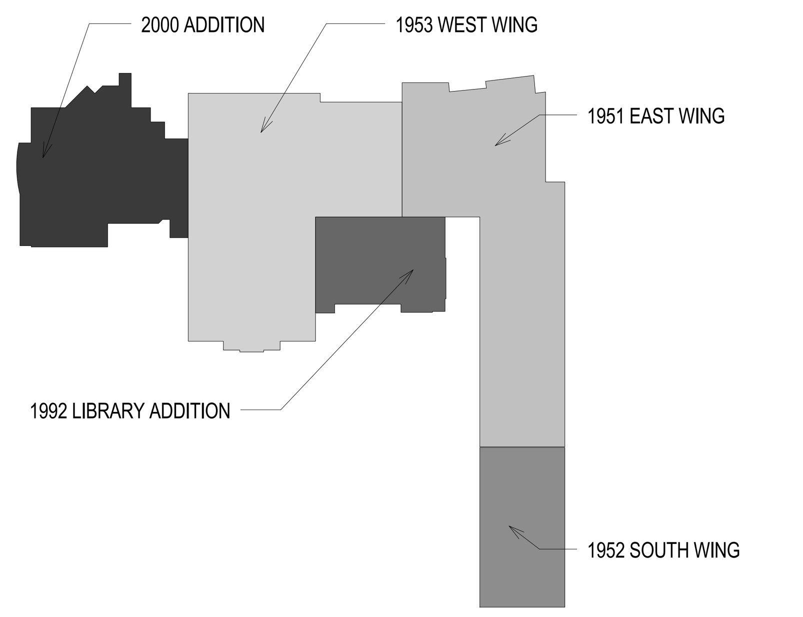
TRANSFER AIR ZONE 1:
1. FOR (E) TRANFER DUCT (1) ADJACENT TO ROOM 215A, INSTALL NEW F.S.D. AT FLOOR LEVEL . SEE DRAWING XX/A194 FOR DEMO AND RECONSTRUCTION INFORMATION OF ADJACENT WALLS.
2. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE AT DUCTS (1) & (2)

TRANSFER AIR ZONE 2:
1. NO ARCHITECTURAL WORK FOR (E) TRANSFER DUCT (3) AT CLASSROOM 211.
2. FOR (E) TRANFER DUCT (2) ADJACENT TO CLASSROOM 202, INSTALL NEW F.S.D. AT FLOOR LEVEL. SEE DWG XX/A194 FOR DEMO AND RECONSTRUCTION INFORMATION OF ADJACENT WALLS AND CASEWORK.
3. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE.

TRANSFER AIR ZONE 3:
1. NO ARCHITECTURAL WORK FOR (E) TRANSFER DUCT (4) AT CLASSROOM 206.
2. FOR (E) TRANFER DUCT (5) ADJACENT TO CLASSROOM 208, INSTALL NEW F.S.D. AT FLOOR LEVEL. SEE DWG 1/A194 FOR DEMO AND RECONSTRUCTION INFORMATION OF ADJACENT WALLS.
3. REFER TO MECHANICAL AND ELECTRICAL DWGS. FOR ADDITIONAL SCOPE.



2 R110 LEVEL 2 - ROOMS 218/219/220 - NEW CONSTRUCTION - CODE PLAN
1/8" = 1'-0"



KEY LEGEND

1 R110 LEVEL 2 - CODE AND SCOPE PLAN
1/16" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT

DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

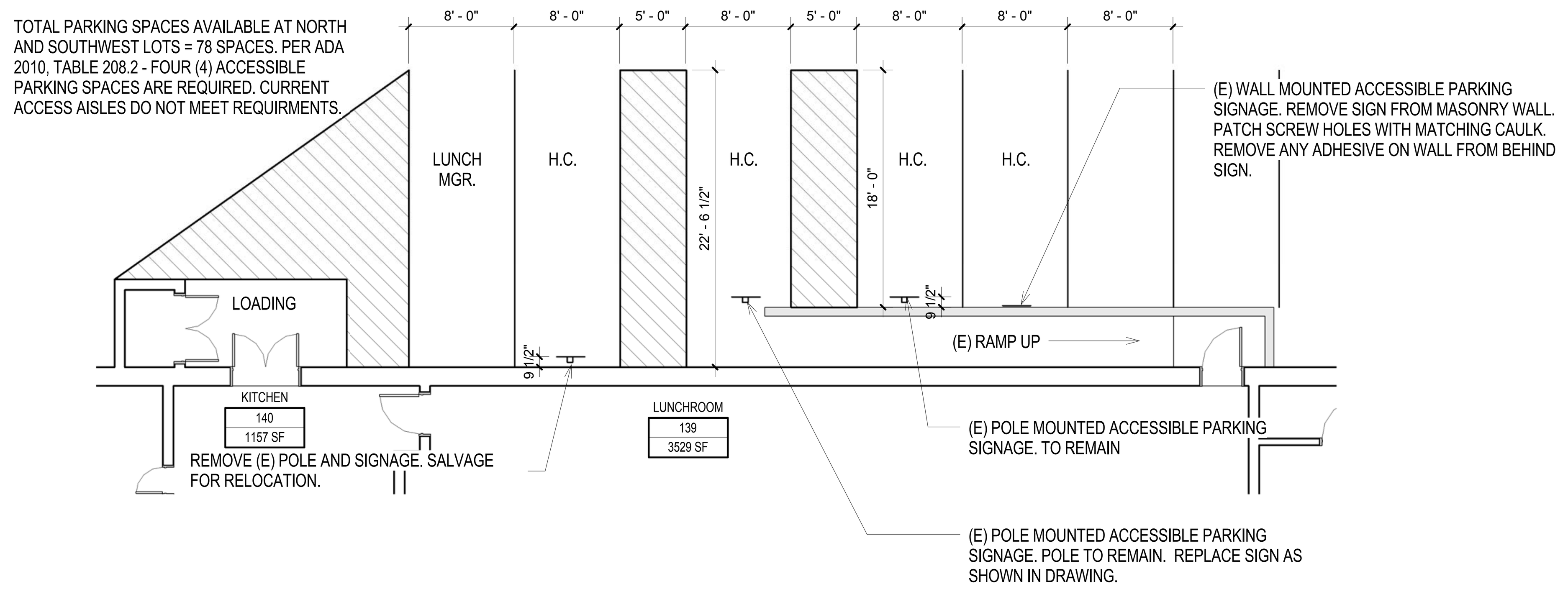
SECOND FLOOR - CODE AND SCOPE PLAN

DATE:

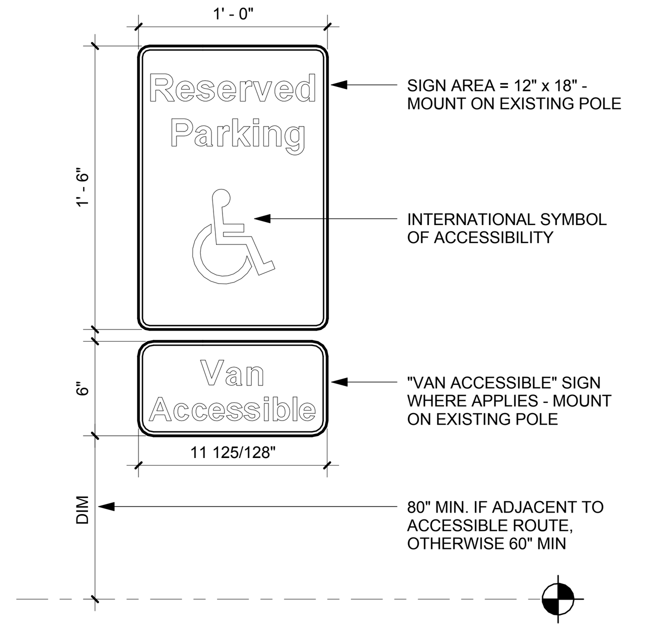
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

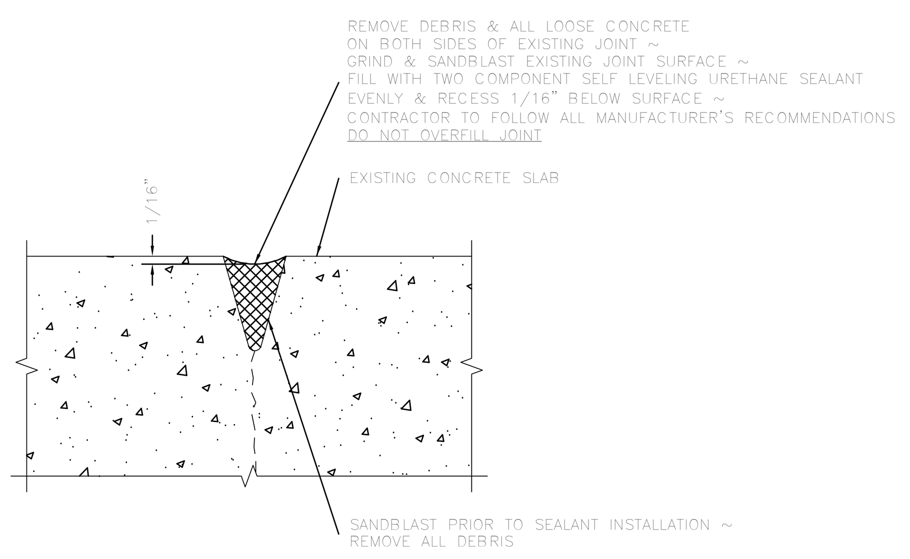
DWG NO. R110



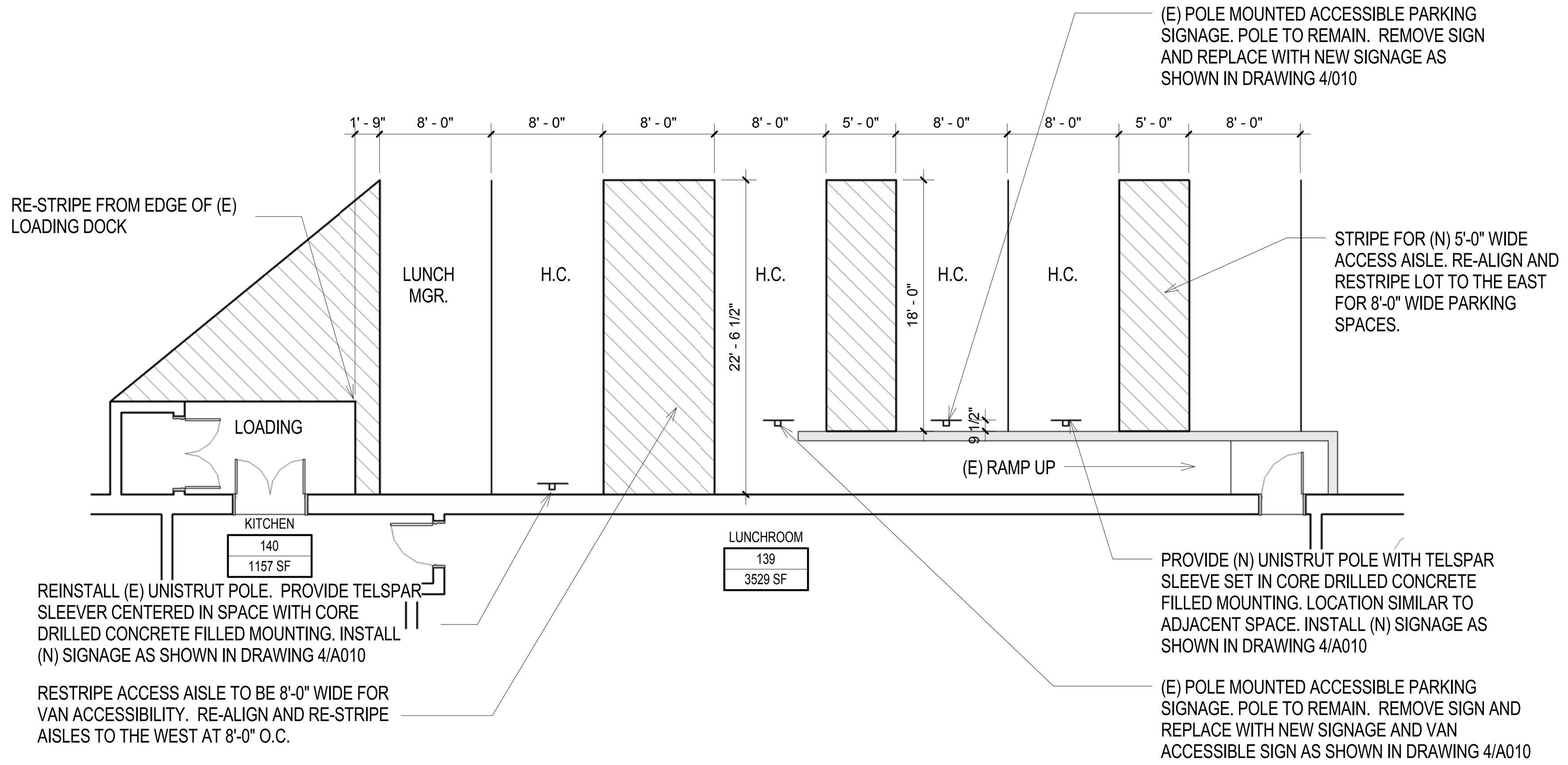
1 A010 **ACCESSIBLE PARKING - EXISTING AND DEMOLTION PLAN**
1/8" = 1'-0"



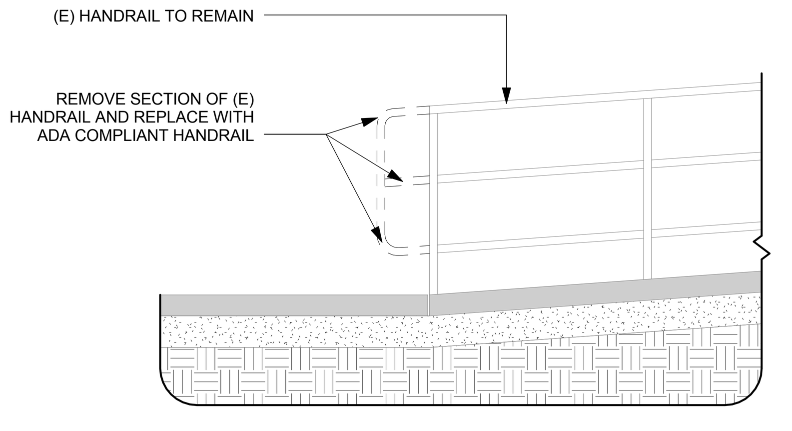
4 A010 **ADA PARKING SIGNAGE**
1 1/2" = 1'-0"



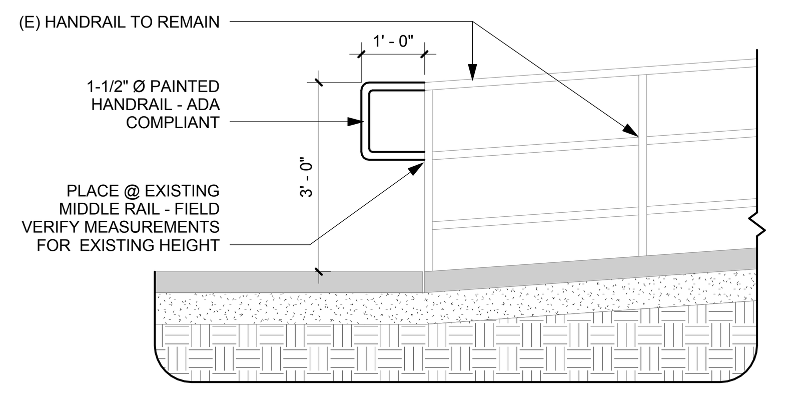
8 A010 **CONCRETE SLAB JOINT SEALING DETAIL**
1" = 1'-0"



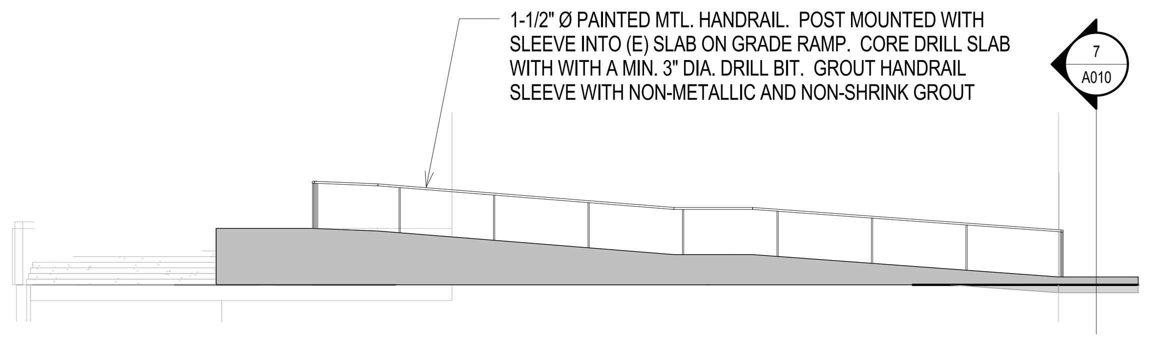
9 A010 **ACCESSIBLE PARKING - RESTRIPING PLAN**
1/8" = 1'-0"



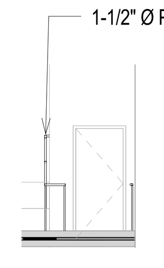
10 A010 **DEMOLITION - EXISTING CONDITION @ START OF RAMP - TYP**
1/2" = 1'-0"



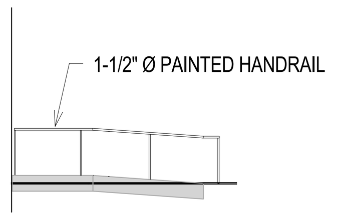
11 A010 **NEW - CONDITION @ START OF RAMP - TYP**
1/2" = 1'-0"



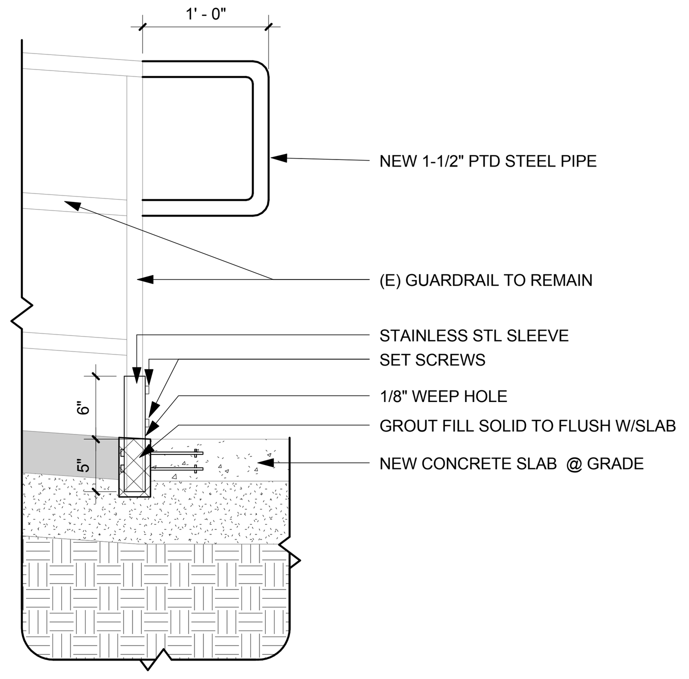
6 A010 **NEW HANDRAIL - NORTH SECTION**
1/8" = 1'-0"



7 A010 **NEW HANDRAIL - WEST SECTION**
1/8" = 1'-0"

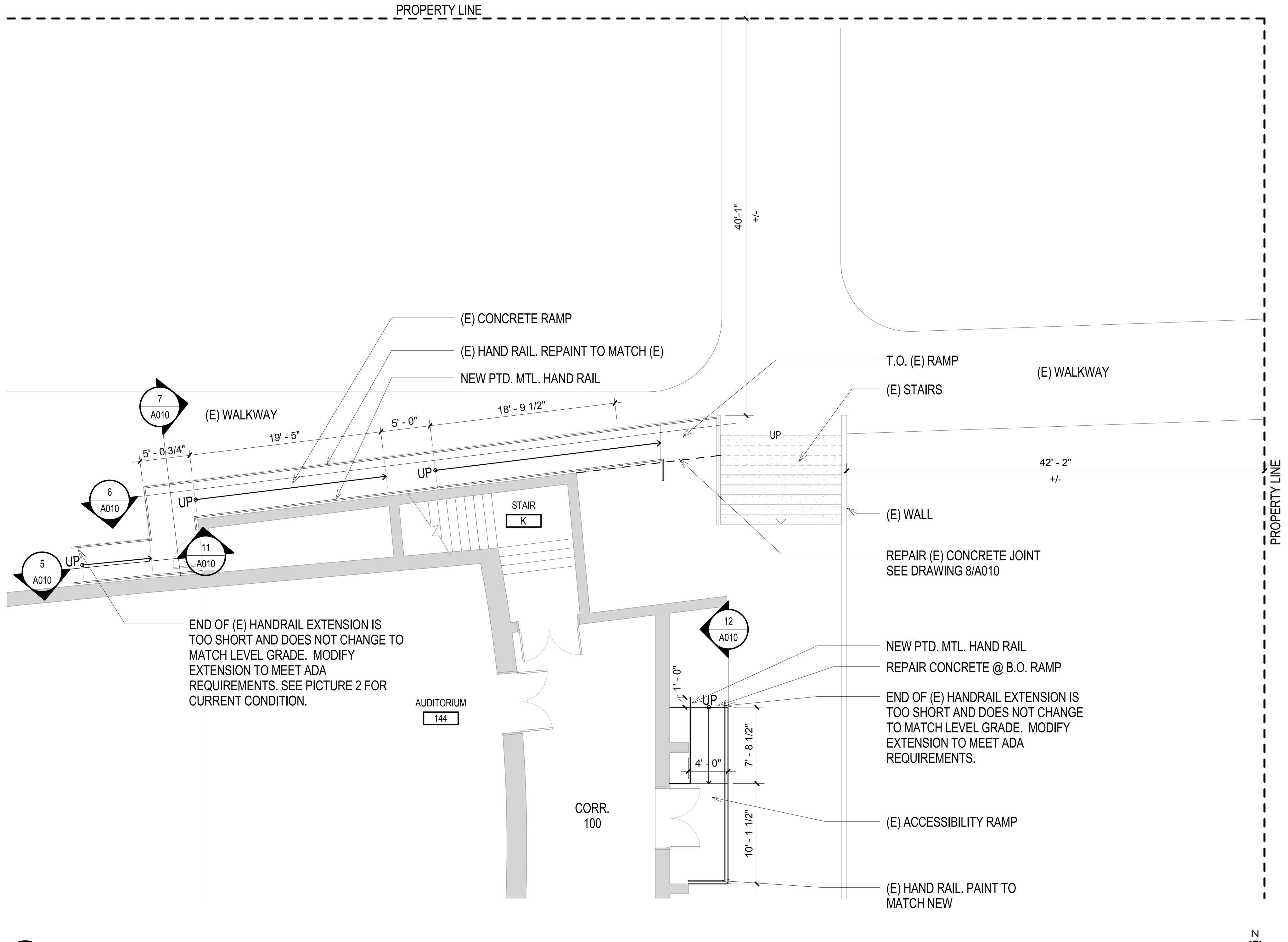


5 A010 **NEW HANDRAIL - NORTH WEST SECTION**
1/8" = 1'-0"



12 A010 **NEW GUARD RAIL @ GROUND CONDITION - TYP**
1" = 1'-0"

3 A010 **SITE PLAN - AERIAL IMAGE**
NTS



2 A010 **(E) RAMP PLAN**
1/8" = 1'-0"

KEY LEGEND

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 — SCHOOL NO. 408 — SITE NO. 091 — DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT

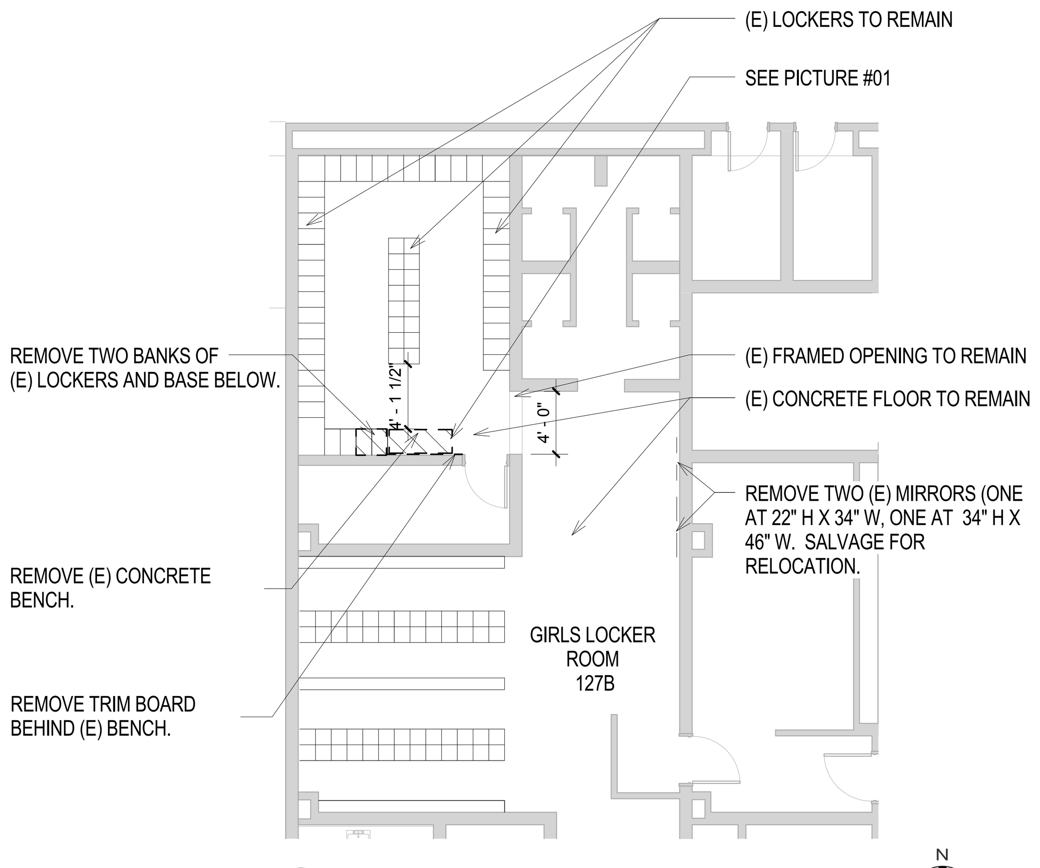
DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

SITE PLAN

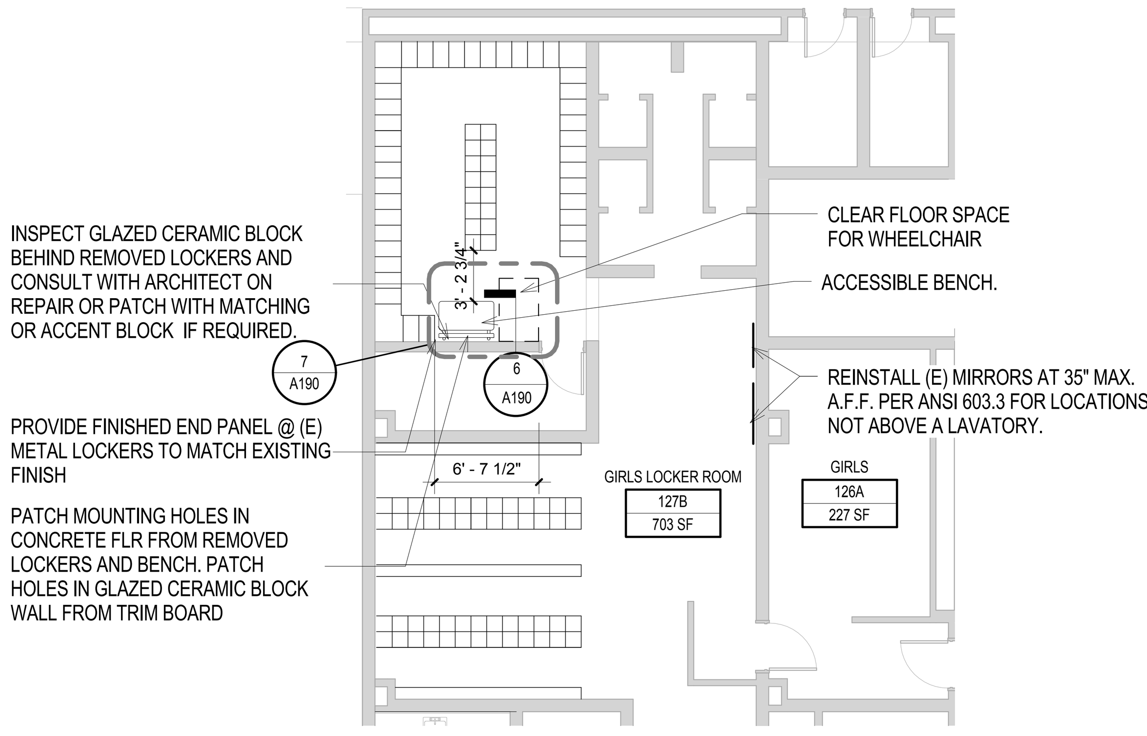
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602
www.cuningham.com
Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DATE:

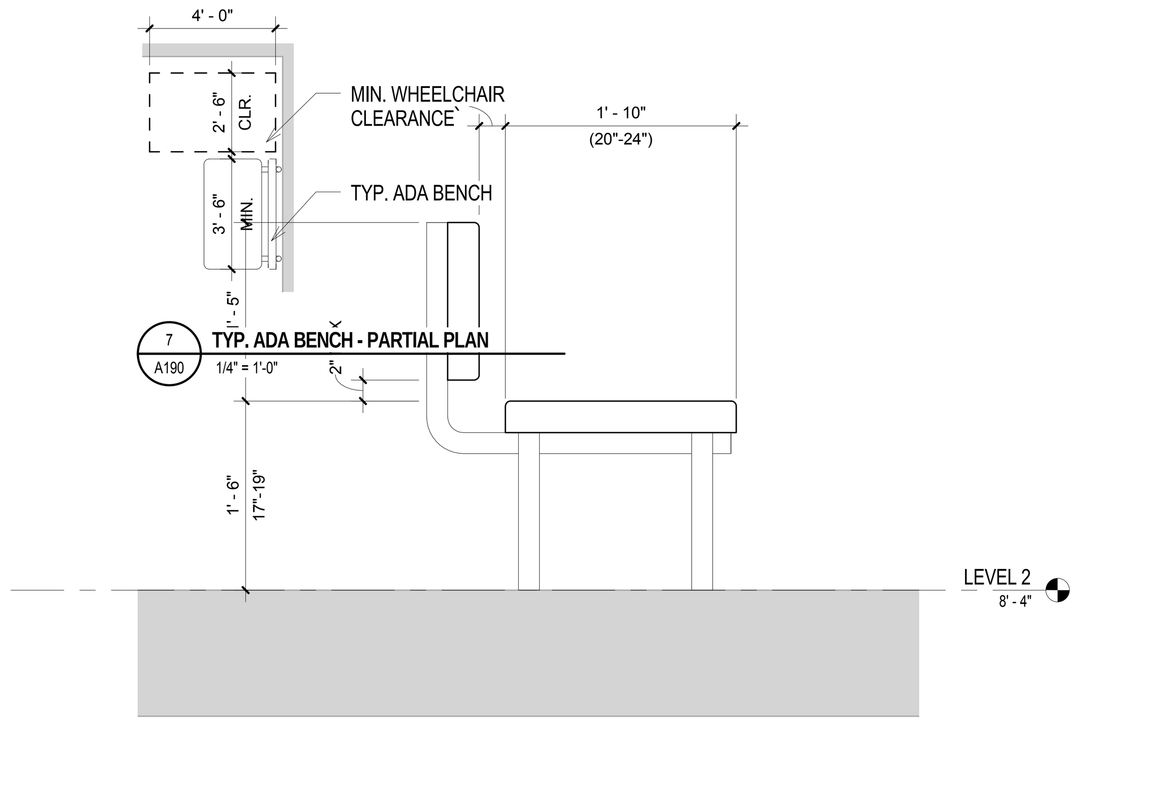
DWG NO. A010
SHEET: 5 OF: 23



1 A190 **LEVEL 1 - ROOM 127B - GIRLS LOCKER ROOM - DEMOLITION PLAN**
1/8" = 1'-0"



8 A190 **LEVEL 1 - ROOM 127B - GIRLS LOCKER ROOM - NEW PLAN**
1/8" = 1'-0"



7 A190 **TYP. ADA BENCH - PARTIAL PLAN**
1/4" = 1'-0"

6 A190 **TYP ADA BENCH - SECTION**
1" = 1'-0"

GENERAL SHEET NOTES:

1. **REPAIR OF EXISTING ELEMENTS AND FINISHES:** Patch and repair all existing holes, discontinuities, damage, cracks, discolorations, and dislocations of existing surfaces and finishes discovered in the course of the construction, where those elements contribute directly to the quality and performance of the finished alterations. Particular attention shall be given to the repair of existing elements to be left visible as part of the finished alterations.

2. **EXISTING HVAC FITTINGS:** All existing HVAC ceiling fittings designated for reuse shall be cleaned prior to reinstallation.

3. **PAINTING OF ALL SURFACES:** All rooms and areas where work is being performed is to painted to match existing adjacent surface U.N.O. on these drawings.

4. **NOTIFICATION REGARDING EXISTING ELEMENTS**: The contractor shall be responsible to verify demolition and new construction is free and clear of existing building elements such as wall switches, fire alarms, sensors, outlets, grilles, ducts, and other related existing elements. The contractor shall notify the architect of any conflicts prior to proceeding with demolition and await a coordinated response from the architect and owner before continuing with work.

5. **DEMOLITION AND SALVAGE OF ELEMENTS:** The contractor shall verify with the architect the building elements that are to be salvaged for reuse prior to the beginning of demolition. Certain items such as doors, door hardware, toilets, and toilet fixtures should be assumed for salvage reuse.

6. **NEW INFILL WALLS:** All new infill walls to be constructed of 3-5/8" metal stud w/ gypsum board ea. side, U.N.O. Finishes shall match adjacent surfaces, typ.

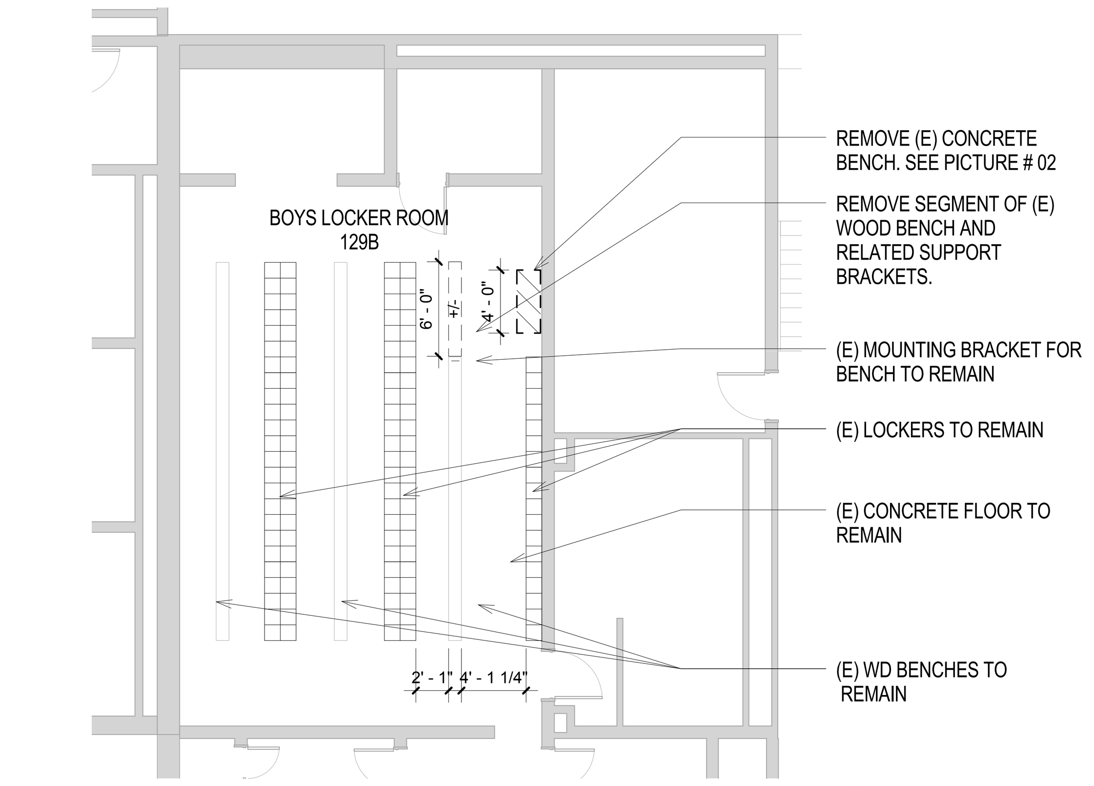
DOORS -SCOPE OF WORK THIS SHEET

Door 129 at Gym 129
New H.M. frame - Type 1A
New H.M. door - Type AA
Hardware Set 102

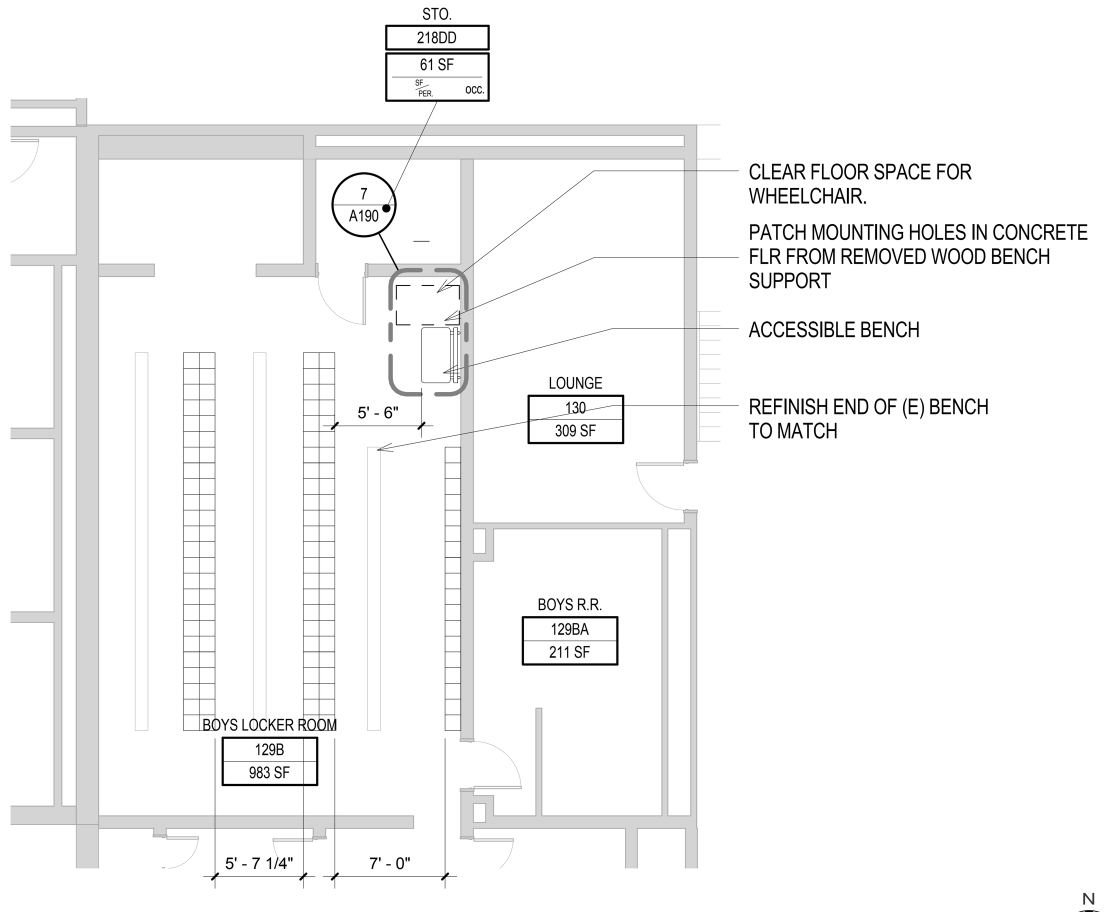
Door 128A:
New H.M. frame - Type 1
New Wood door - Type A
Hardware Set 104

Door 128A-1 at Gym 127:
Existing H.M. frame
New Wood door - Type A
Hardware Set 103

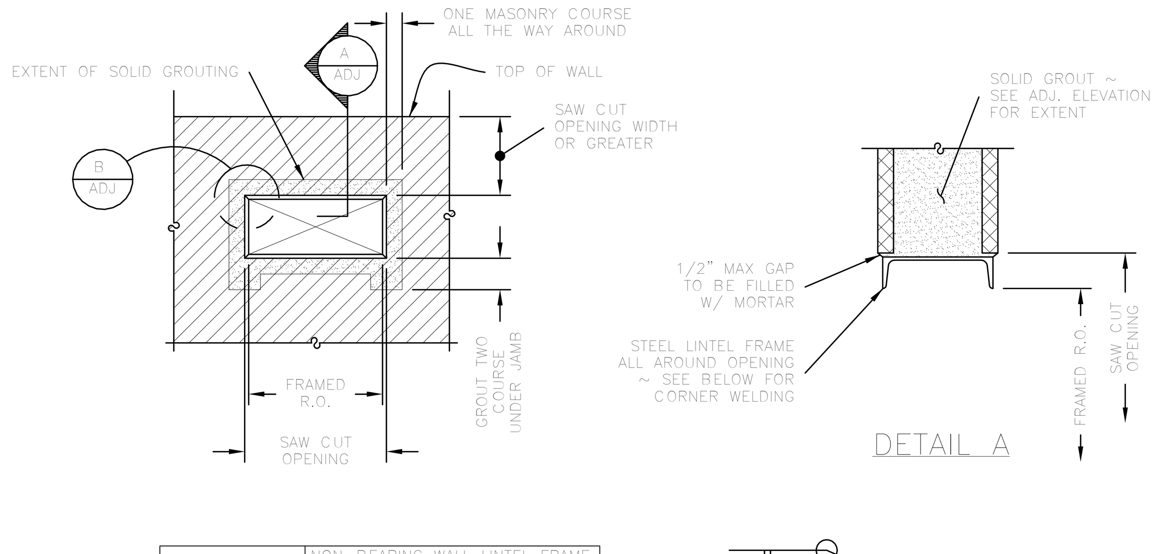
Opening128A-2 at Vestibule 128A:
New H.M. frame at masonry opening



2 A190 **LEVEL 1 - ROOM 129B - BOYS LOCKER ROOM - DEMOLITION PLAN**
1/8" = 1'-0"



4 A190 **LEVEL 1 - ROOM 129B - BOYS LOCKER ROOM - NEW PLAN**
1/8" = 1'-0"

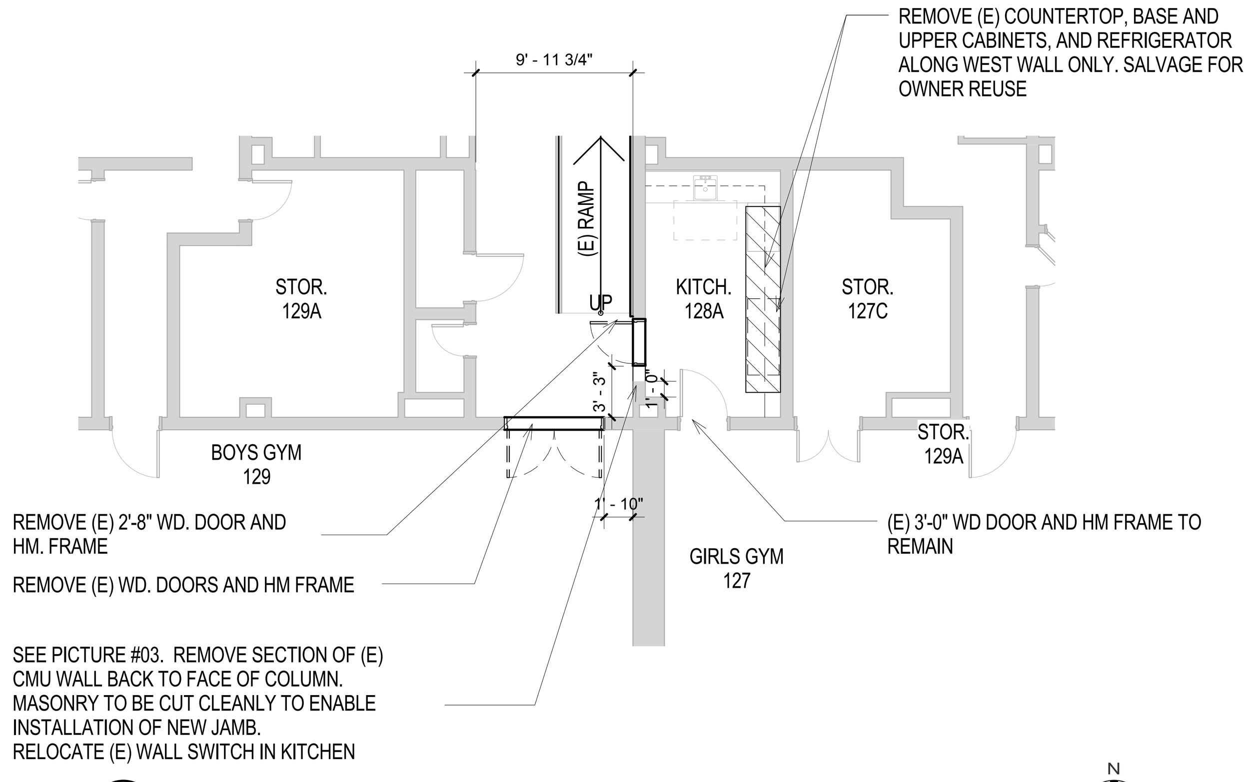


OPENING WIDTH	NON-BEARING WALL LINTEL FRAME	
	6" MASONRY	8" MASONRY
0 THRU 4'-0"	C5X9	C7X12.2

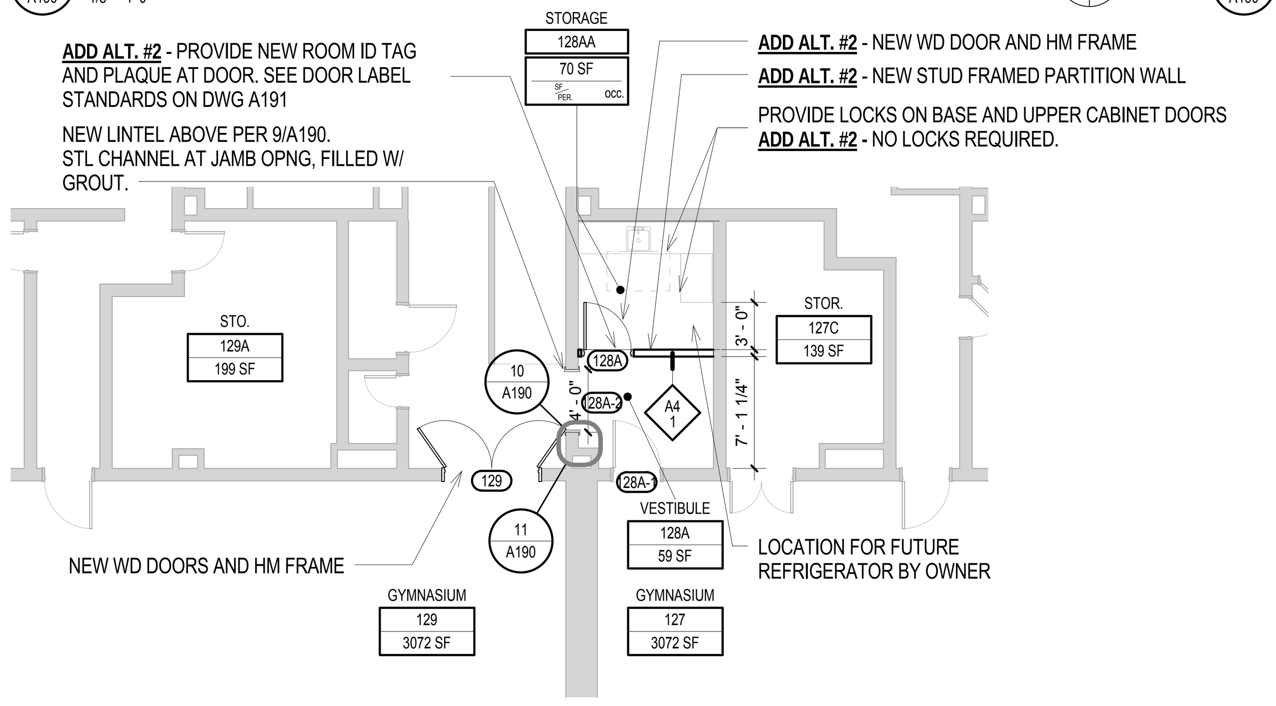
NOTE:
UNLESS NOTED OR SHOWN OTHERWISE, PROVIDE LINTEL FRAME SHOWN ABOVE IN NON-BEARING WALLS. PROVIDE SOLID GROUT AROUND FRAME IN JAMBS, SILL & HEAD. HORIZONTAL MASONRY CHAMBERS SHALL BE SEALED TO KEEP GROUT FROM OVERFLOWING INTO OTHER AREAS.

9 A190 **MASONRY LINTEL DETAIL**
NTS

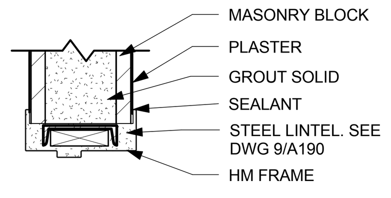
DETAIL PROVIDED BY HCL ENGINEERING



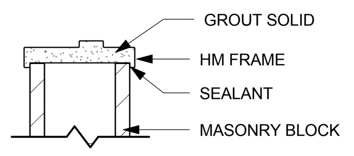
3 A190 **LEVEL 1 - GYM 127 & 129 - ENTRY DOORS - DEMOLITION PLAN**
1/8" = 1'-0"



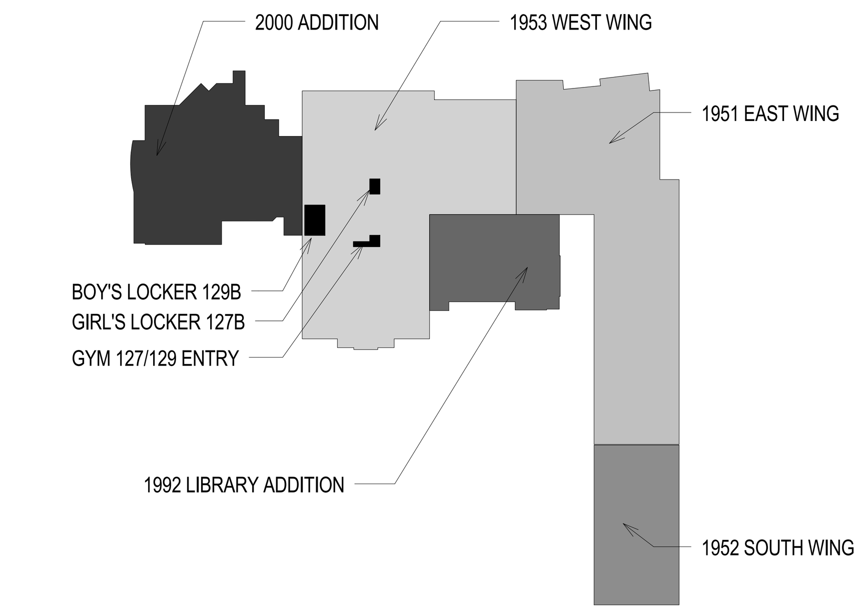
5 A190 **LEVEL 1 - GYM 127 & 129 - ENTRY DOORS - NEW PLAN**
1/8" = 1'-0"



11 A190 **HM HEAD AT MASONRY OPENING**
1" = 1'-0"



10 A190 **HM JAMB AT MASONRY OPENING**
1" = 1'-0"



KEY LEGEND - FIRST FLOOR

PICTURE #01 - GIRL'S LOCKER ROOM 127B - EXISTING CONDITIONS

PICTURE #02 - BOY'S LOCKER ROOM 129B - EXISTING CONDITIONS

PICTURE #03 - (E) DOOR TO ROOM 128A TO BE MODIFIED AS NEW ENTRY TO GIRLS GYM 127

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

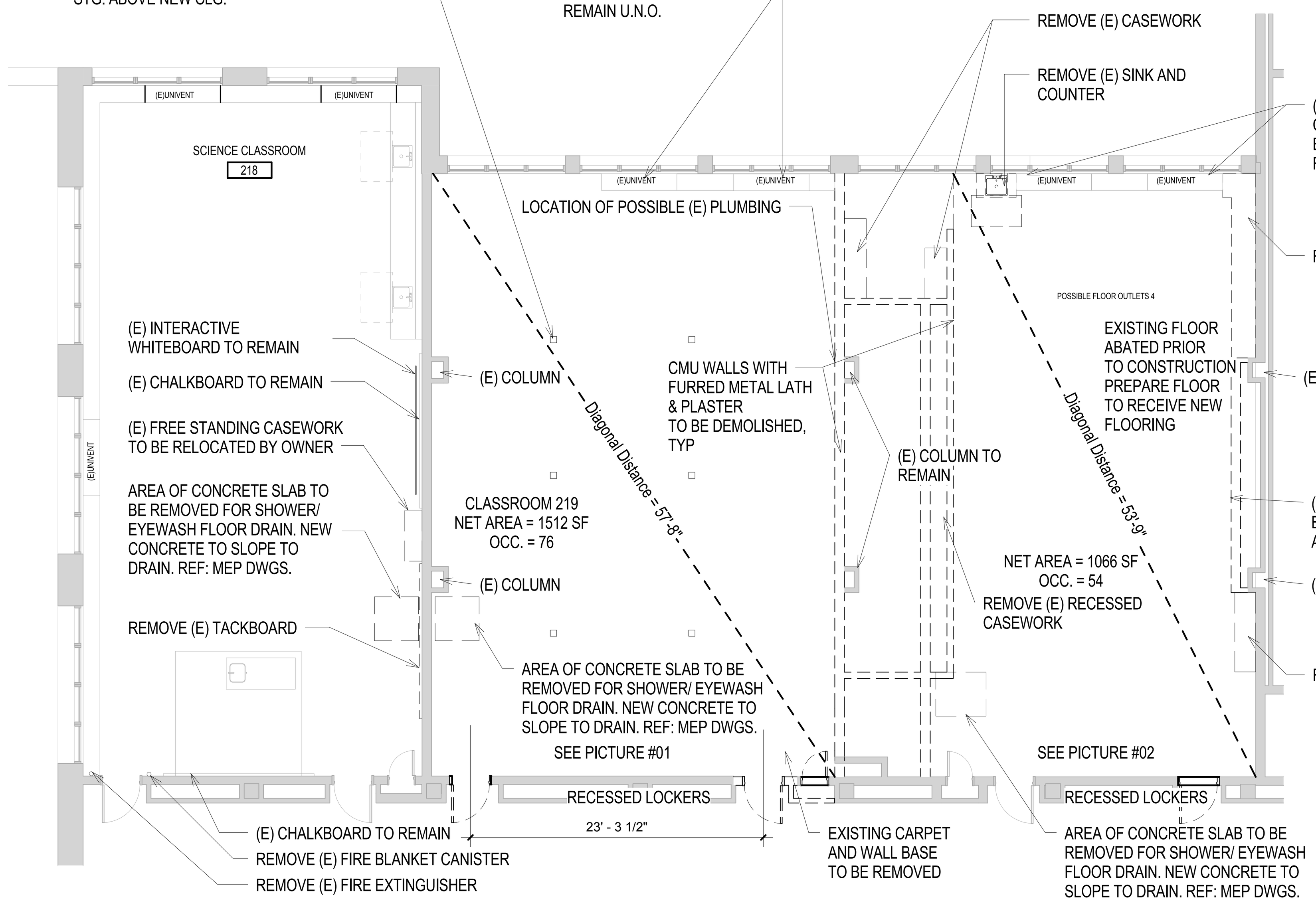
DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

ENLARGED FLOOR PLANS - ADA ACCESS

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602
Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

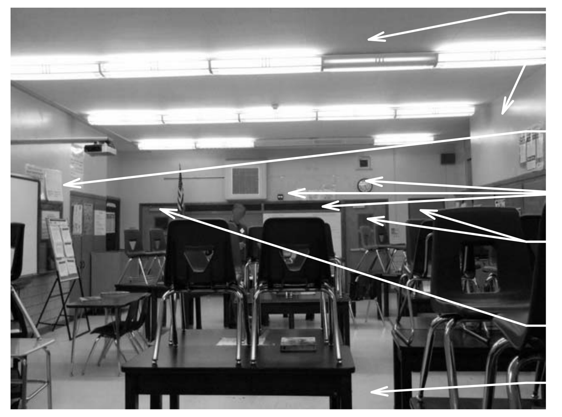
DWG NO. A190



1 / A191 Level 2 - Rooms 218/219/220 - DEMOLITION PLAN
1/8" = 1'-0"

PICTURE # 01 - PROPOSED SCIENCE CLASSROOM 219 - TYP. EXISTING CONDITIONS

- (E) ADHERED CEILING TILE AND (E) LIGHT FIXT. TO BE REMOVED
- LIMITED CLEARANCE AT WINDOW HEAD. TYP. 219 AND 220
- TYP. POWER AND DATA POLES TO BE REMOVED
- REMOVE CHALKBOARD. LOCATION OF FUTURE SINKS ALONG WALL
- UNIVENTS AND CASEWORK ON NORTH WALL TO REMAIN - TYP.
- CARPET TO BE REMOVED. ANY (E) VCT BELOW TO BE REMOVED



PICTURE # 02 - SCIENCE CLASSROOM 220 - TYP. EXISTING CONDITIONS

- (E) ADHERED CEILING TILE AND (E) LIGHT FIXT. TO BE REMOVED
- WEST WALL AND CASEWORK TO BE REMOVED
- REMOVE ALL ACCESSORIES ALONG EAST WALL.
- REMOVE ALL ACCESSORIES ALONG SOUTH WALL
- CLOSET AND DOOR TO REMAIN FOR ACCESS INTO NEW STORAGE ROOM FROM CORRIDOR.
- REMOVE DOOR AND FRAME TO CREATE NEW VESTIBULE
- REMOVE (E) VCT FLOOR. INSTALL (N) VCT FLOOR WITH RUBBER BASE

DOORS -SCOPE OF WORK THIS SHEET

Door 219-1 at Science Lab.#219
New H.M. frame - Type 1
New 20 min. Wood door - Type B
Hardware Set 107
Provide Hazmat sign as shown

Door 219-2 at Science Lab.#219
New H.M. frame - - Type 1
New 20 min. Wood door - Type B
Hardware Set 107
Provide Hazmat sign as shown

Door 219A-1 at Science Storage #219A
New H.M. frame - Type 1
New Wood door - Type A
Hardware Set 104
Provide Hazmat sign as shown

Door 220B-1 at Science Prep. #220B
New H.M. frame - - Type 1
New 20 min. Wood door - Type B
Hardware Set 105
Provide Hazmat sign as shown

Door 220B-2 at Science Prep. #220B
New H.M. frame - - Type 1
New 20 min. Wood door - Type B
Hardware Set 105
Provide Hazmat sign as shown

Door 220-1 at Science Lab.#220
New H.M. frame - Type 1
New 20 min. Wood door - Type A
New Hardware 107
Provide Hazmat sign as shown

Door 220-2 at Science Lab.#220
New H.M. frame - Type 1
New 20 min. Wood door - Type A
Hardware Set 108
Provide Hazmat sign as shown

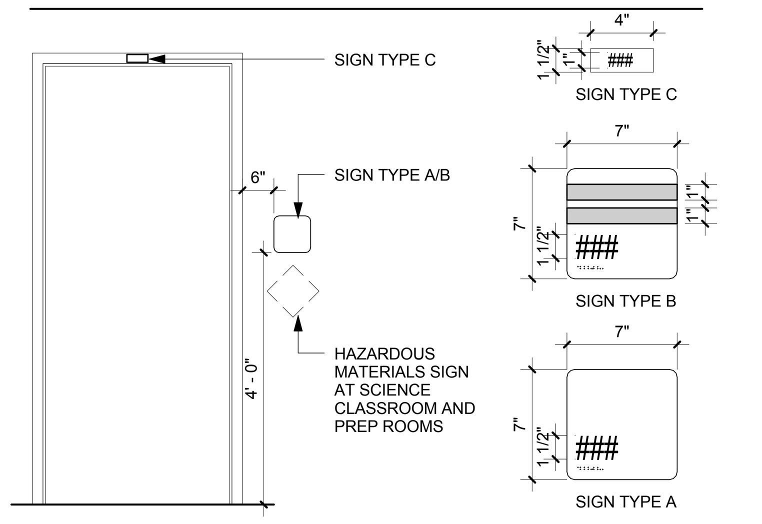
GENERAL SHEET NOTES - SCIENCE AND COMPUTER CLASSROOMS:

1. Notifications regarding existing elements: The contractor shall be responsible to verify demolition and new construction is free and clear of existing building elements such as wall switches, fire alarms, sensors, outlets, grilles, ducts, and other related existing elements. The contractor shall notify the architect of any conflicts prior to proceeding with demolition and await a coordinated response from the architect and owner before continuing with work

2. Repair of existing elements and finishes: Patch and repair all existing holes, discontinuities, damage, cracks, discolorations, and dislocations of existing surfaces and finishes discovered in the course of the construction, where those elements contribute directly to the quality and performance of the finished alterations. Particular attention shall be given to the repair of existing elements to be left visible as part of the finished alterations.

3. Interactive Whiteboards, Screens and Computers: Coordinate with the District's Department of Technical Services (DoTS) for removal and salvage of this equipment for future reuse. Remove all tack boards, chalk boards, whiteboard, clocks, from walls prior to demolition. Verify with District whether items are to be salvaged or replaced.
Existing interactive white board at (E) Science #220 to be relocated to new Science #220 south wall

DENVER PUBLIC SCHOOL DOOR LABEL STANDARDS



DPS DOOR LABEL STANDARDS - SIGNAGE @ NEW DOORS

TYPE A: 1/8" thick photopolymer sign panels with 1/32" raised copy and symbols with Grade II braille. Mounted to wall with VHB double-sided tape and silicone adhesive. Used for Storage rooms, Prep rooms, exc.

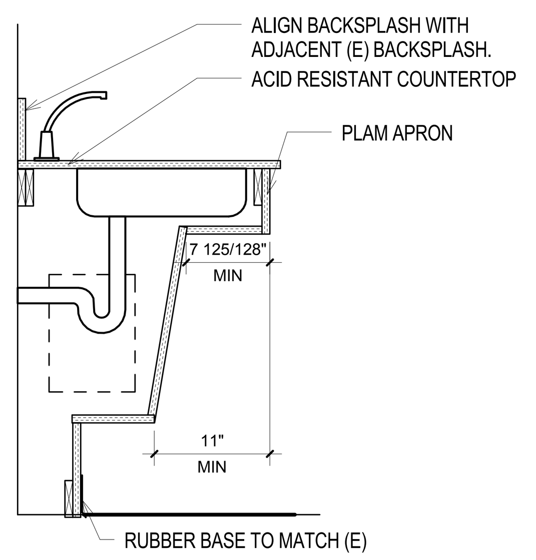
TYPE B: Photopolymer sign panels with 1/32" raised copy and symbols with Grade II braille. 2 clear insert windows. Mounted to wall with VHB double-sided tape and silicone adhesive. Only used outside of classrooms.

TYPE C: 2 ply dual color modified acrylic panels. Mounted to wall with VHB double-sided tape and silicone adhesive.

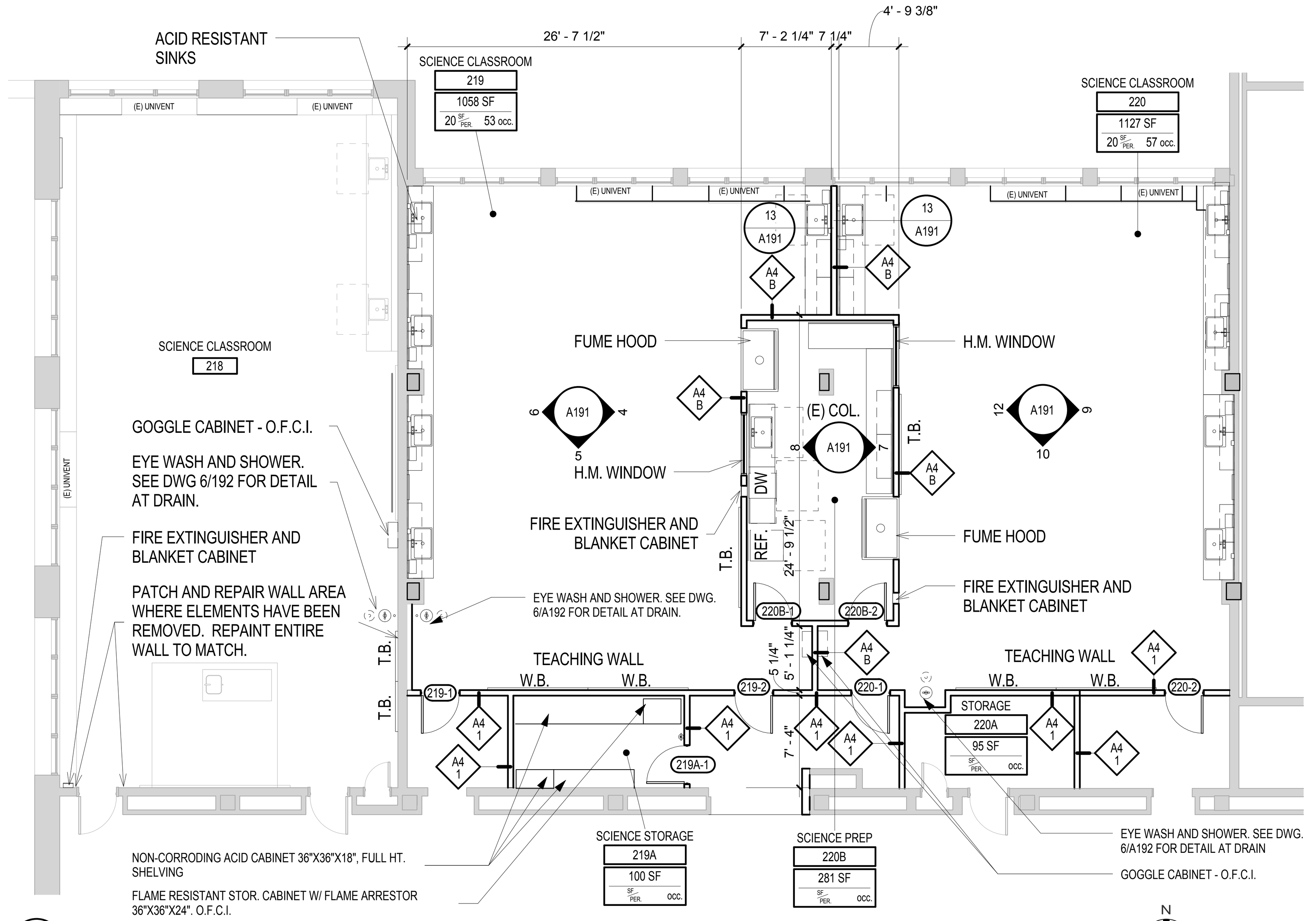
CASEWORK GENERAL NOTES

1. Casework to be compliant with AWI custom grade standards U.N.O.
2. Provide PVC edgeband on counters, back & side splashes, doors, and drawer fronts.
3. Counters to be plastic laminate U.N.O.
4. Base and upper cabinets to be plastic laminate, flush overlay construction.

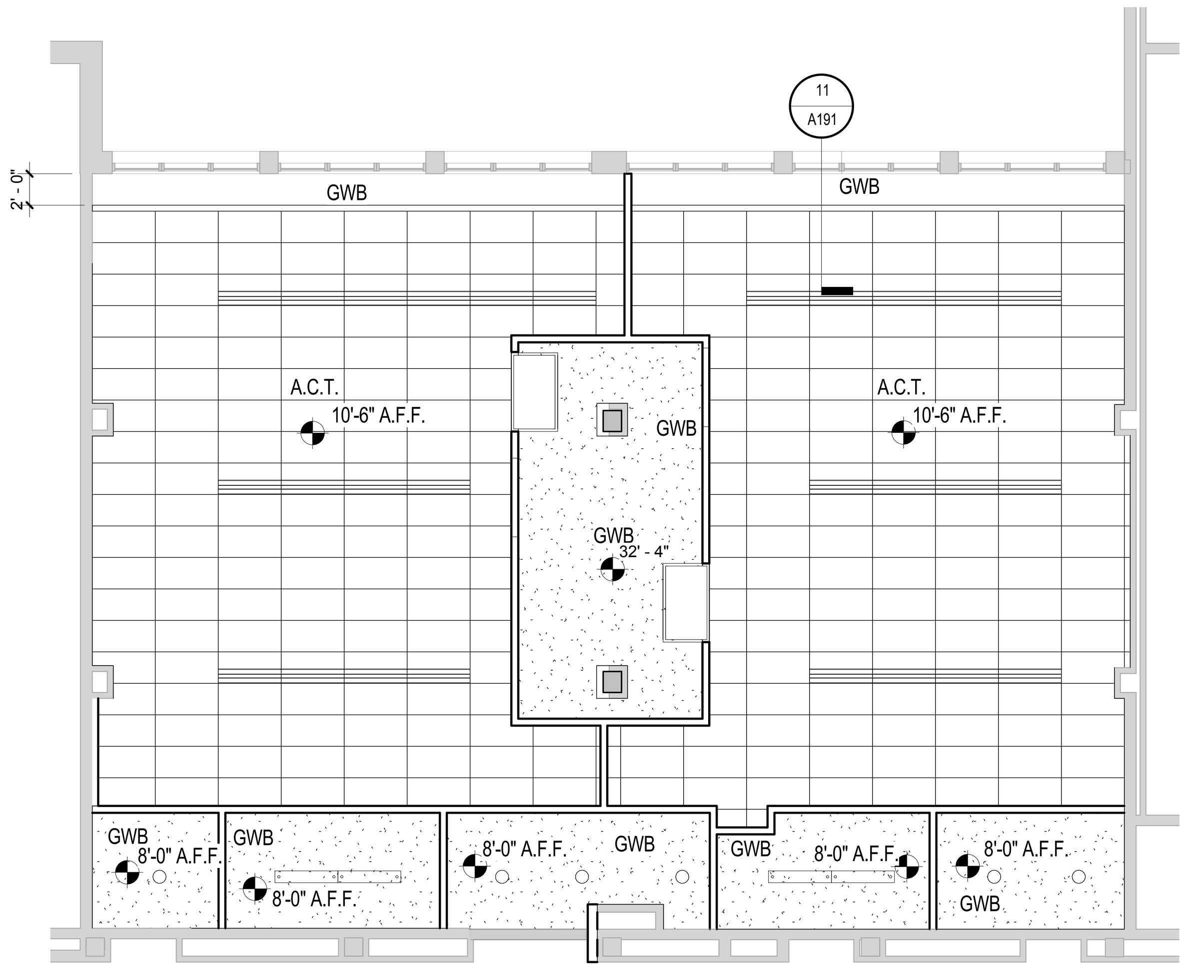
← CASEWORK DESIGN SERIES (CDS) NUMBER



13 / A191 Custom Sink Detail
1" = 1'-0"

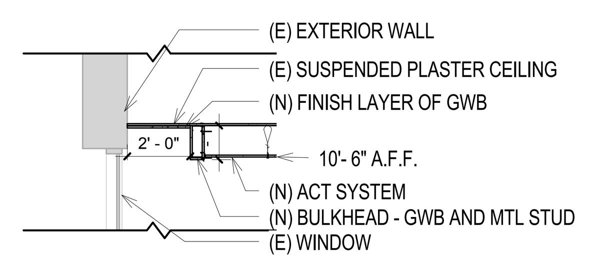


3 / A191 LEVEL 2- ROOMS 219/220 - NEW CONSTRUCTION
1/8" = 1'-0"

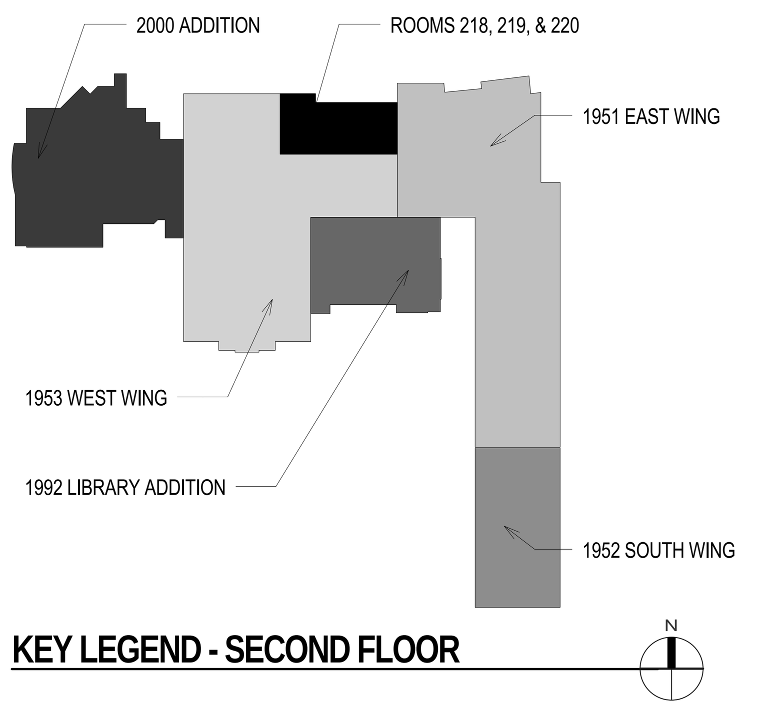


SEE ELECTRICAL DRAWING 2/E191 FOR FIXTURE IDENTIFICATION & LOCATION

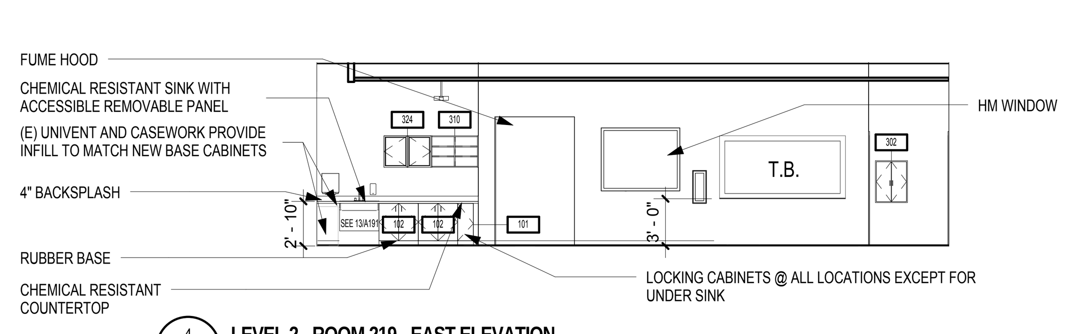
2 / A191 LEVEL 2 - ROOM 218/219/220 REFLECTED CEILING PLAN
1/8" = 1'-0"



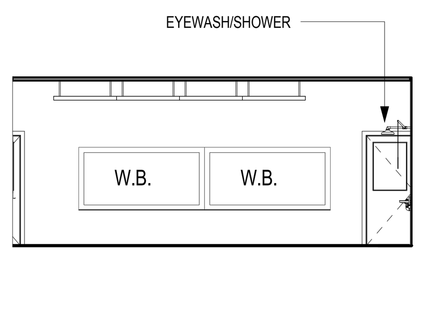
11 / A191 CEILING AT SCIENCE CLASSROOM
1/4" = 1'-0"



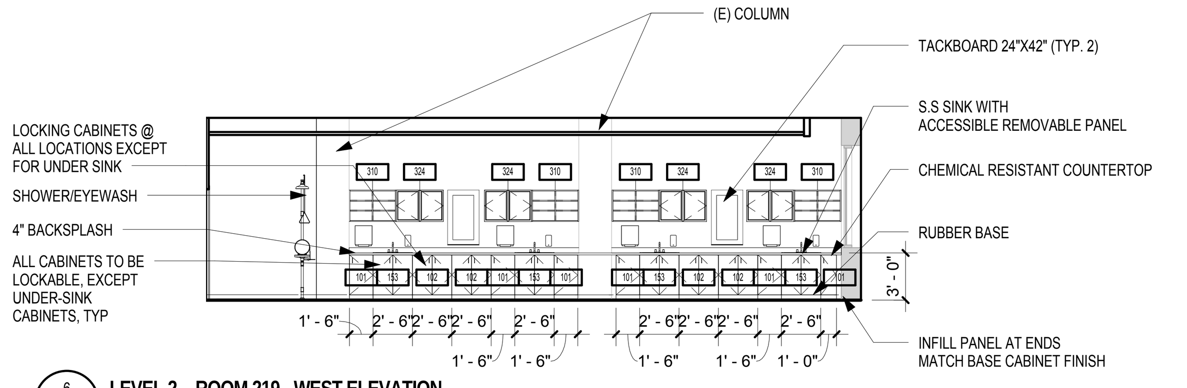
KEY LEGEND - SECOND FLOOR



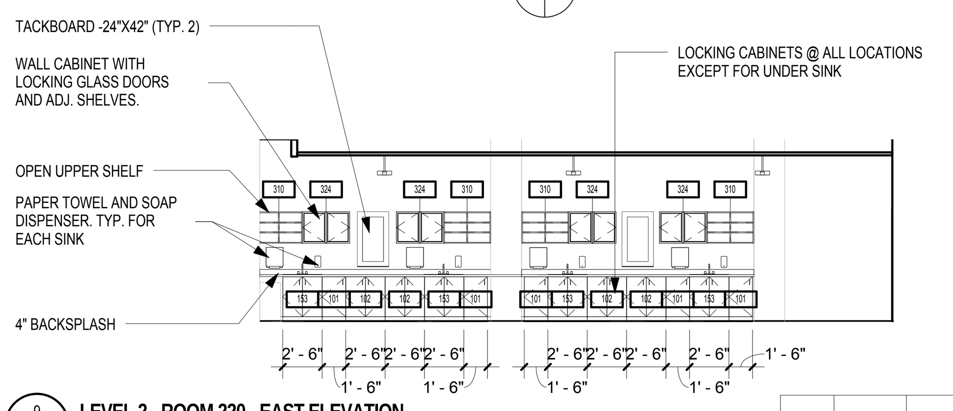
4 / A191 LEVEL 2 - ROOM 219 - EAST ELEVATION
1/8" = 1'-0"



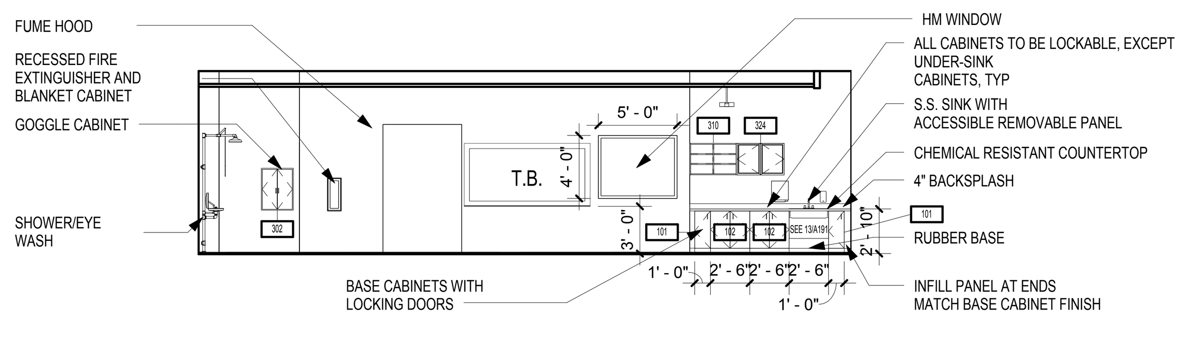
5 / A191 LEVEL 2 - ROOM 219 - SOUTH TEACHING WALL
1/8" = 1'-0"



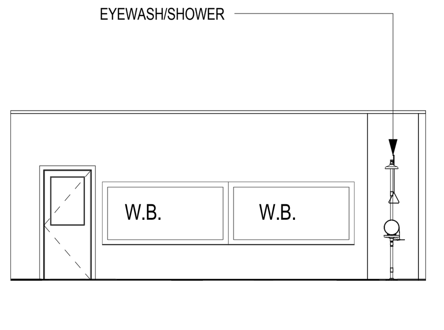
6 / A191 LEVEL 2 - ROOM 219 - WEST ELEVATION
1/8" = 1'-0"



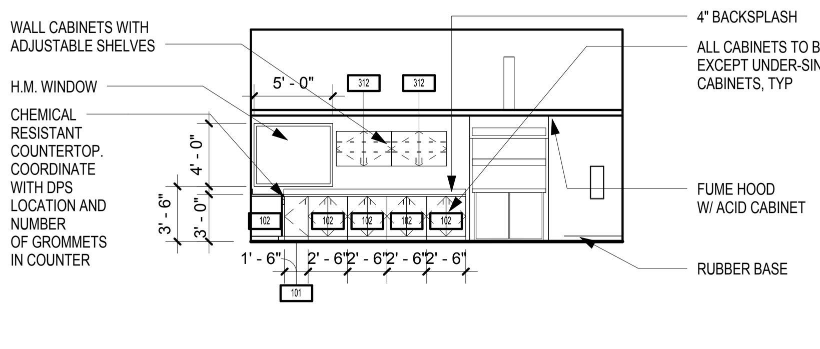
9 / A191 LEVEL 2 - ROOM 220 - EAST ELEVATION
1/8" = 1'-0"



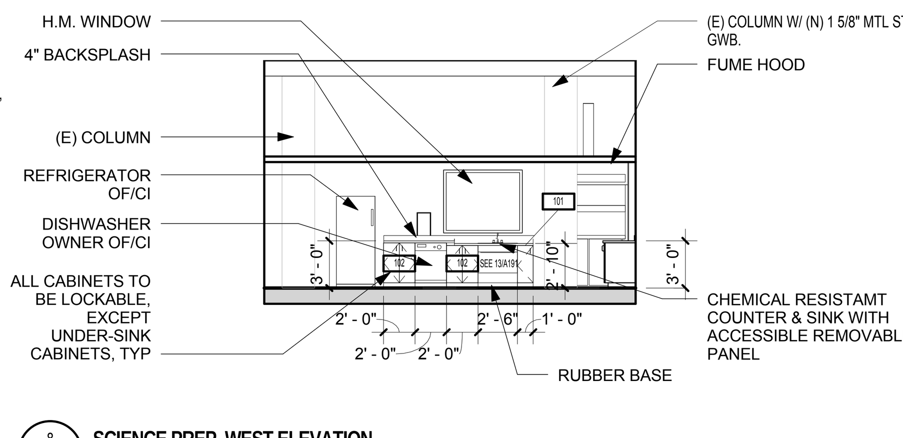
12 / A191 LEVEL 2 ROOM 220 - WEST ELEVATION
1/8" = 1'-0"



10 / A191 LEVEL 2 - ROOM 220 SOUTH TEACHING WALL
1/8" = 1'-0"



7 / A191 SCIENCE PRE. EAST ELEVATION
1/8" = 1'-0"



8 / A191 SCIENCE PREP. WEST ELEVATION
1/8" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 — SCHOOL NO. 408 — SITE NO. 091 — DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT

DESIGNED BY:	MS
DRAWN BY:	AD
CHECKED BY:	KM
DATE:	04/07/17
SCALE:	AS NOTED

ENLARGED FLOOR PLANS - SCIENCE CLASSROOMS

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DATE:

DWG NO. A191

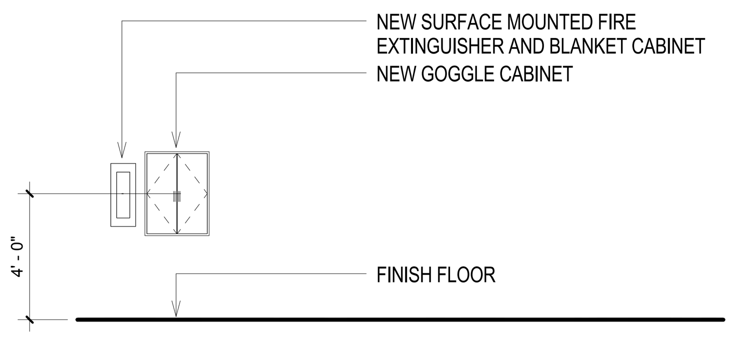
Room Finish Schedule

Num.	Name	Level	Floor Finish	Base Finish	Walls North	Walls East	Walls South	Walls West	Ceiling Material	Ceiling Finish	Ceiling Height	Remarks
BASEMENT LEVEL												
000B	OFFICE	BASEMENT LEVEL	CPT	RB	(E)	(E)	PT-1	PT-1	ACT	-		
OOBA	LAUNDRY ROOM	BASEMENT LEVEL	VCT	RB	PT-1	PT-1	PT-1	PT-1	ACT	-	8' - 6"	
LEVEL 1												
127B	GIRLS LOCKER ROOM	LEVEL 1	(E)	(E)	(E)	(E)	PT-1	(E)	(E)	(E)		PAINT ONLY THE WALL WHERE BENCH HAS BEEN REPLACED
128A	VESTIBULE	LEVEL 1	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1		
129B	BOYS LOCKER ROOM	LEVEL 1	(E)	(E)	(E)	PT-1	(E)	(E)	(E)	(E)		PAINT ONLY THE WALL WHERE BENCH HAS BEEN REPLACED
LEVEL 2												
128AA	STORAGE	LEVEL 2	VCT	RB	PT-1	PT-1	PT-1	PT-1	(E)	PT-1		
LEVEL 2 - CODE AND SCOPE PLAN												
218	SCIENCE CLASSROOM	LEVEL 2 - CODE AND SCOPE PLAN	(E)	(E)	(E)	PT-1	PT-1	(E)	(E)	(E)		
219	SCIENCE CLASSROOM	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	ACT	-	10' - 6"	
219A	SCIENCE STORAGE	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	
219B	VESTIBULE	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	
219C	VESTIBULE	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	
220	SCIENCE CLASSROOM	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	ACT	-	10' - 6"	
220A	STORAGE	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	
220B	SCIENCE PREP	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	
220C	VESTIBULE	LEVEL 2 - CODE AND SCOPE PLAN	VCT	RB	PT-1	PT-1	PT-1	PT-1	GWB	PT-1	8' - 0"	

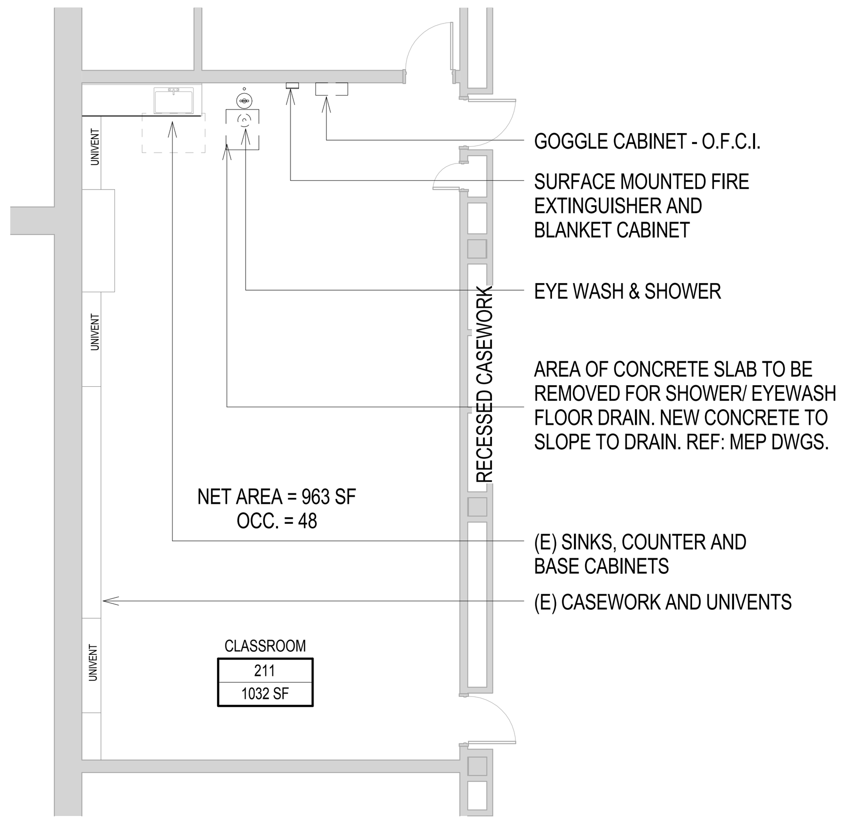
ADDITIONAL BASE SCOPE SAFETY UPGRADES:

UPGRADE	ROOM 206	ROOM 207	ROOM 208	ROOM 209	ROOM 211	ROOM 215	ROOM 216	ROOM 218	ROOM 219	ROOM 220
FIRE BLANKET + CABINET	O	O	O	O	O	O	O	O	O	O
SPILL CONTROL KIT	O	O	O	O	O	O	O	O	O	O
GOGGLES+CABINET	O	O	O	O	O	O	O	O	O	O
CHEM. RESIT. APRONS	X	X	X	X	X	X	X	X	X	X
SHOWER/EYE WASH + DRAIN	X	X	X	-	X	X	X	X	X	X
GFI OUTLETS	-	X	X	X	X	X	X	X	X	X
MSTR. ELEC. SWITCH	-	X	X	X	X	X	X	X	X	X
MICROSCOPE (30)CABINET	-	-	-	-	-	-	-	-	X	X
FIRST AID KIT	-	-	-	-	-	-	-	-	O	O

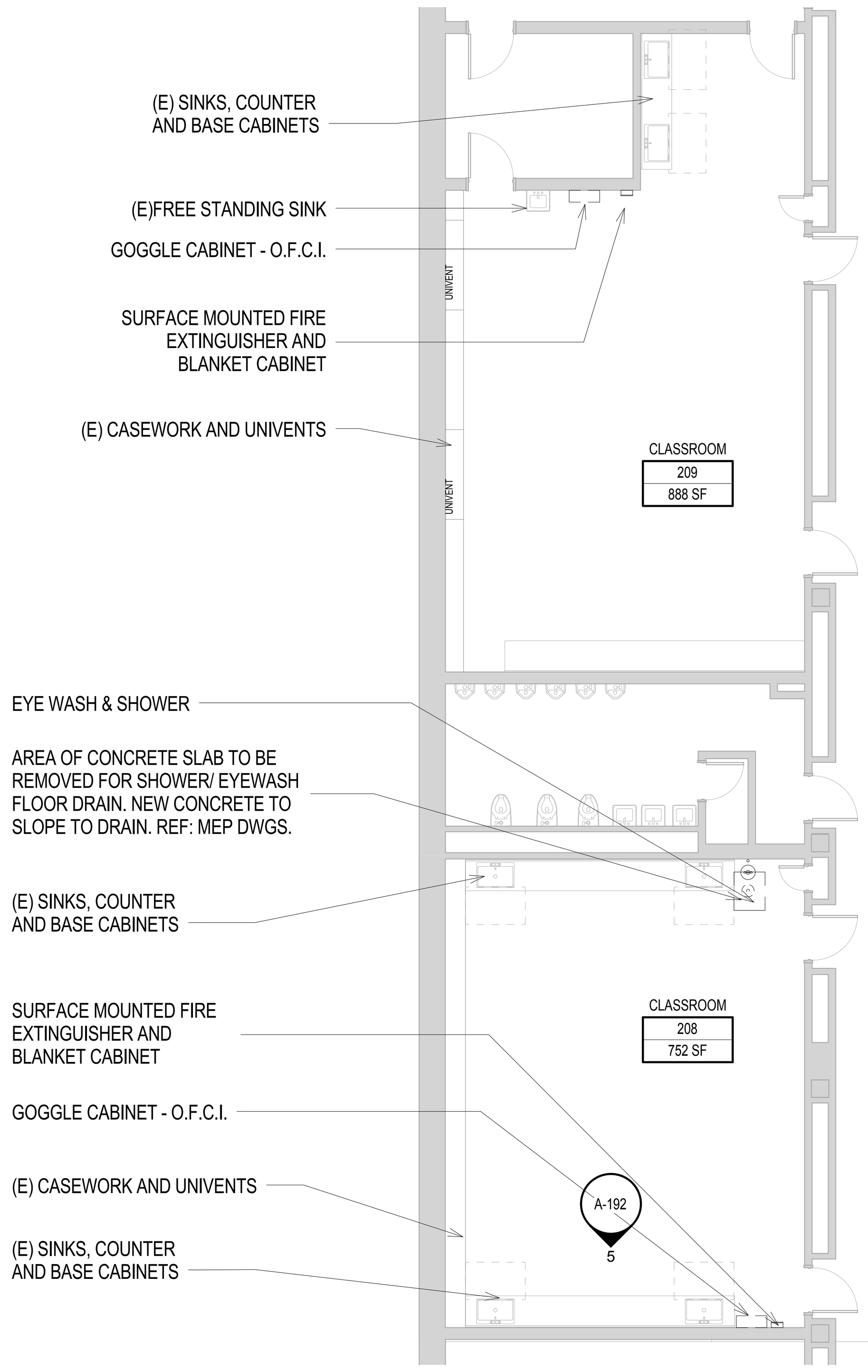
X - ITEMS TO BE PROVIDED AND INSTALLED BY CONTRACTOR
O - ITEMS THAT ARE O.F.C.I.



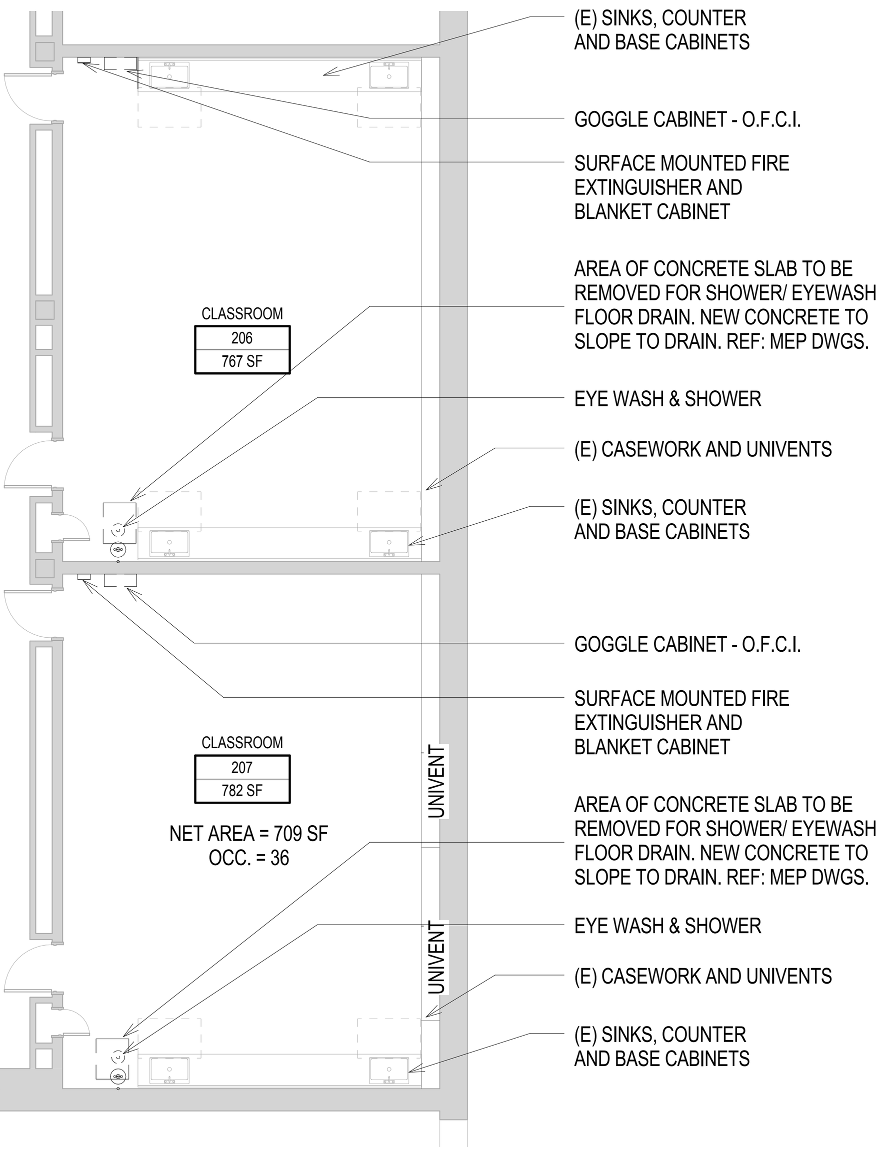
5 A-192 **TYP INTERIOR ELEVATION - SAFETY UPGRADES SCIENCE CLASSROOM 208**
1/4" = 1'-0"



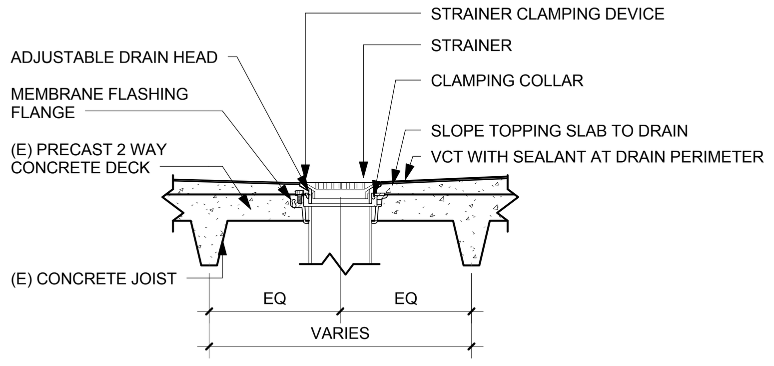
4 A-192 **LEVEL 2 - SAFETY UPGRADES - SCIENCE CLASSROOM 211**
1/8" = 1'-0"



2 A-192 **LEVEL 2 - SAFETY UPGRADES SCIENCE CLASSROOM 208 & 209**
1/8" = 1'-0"

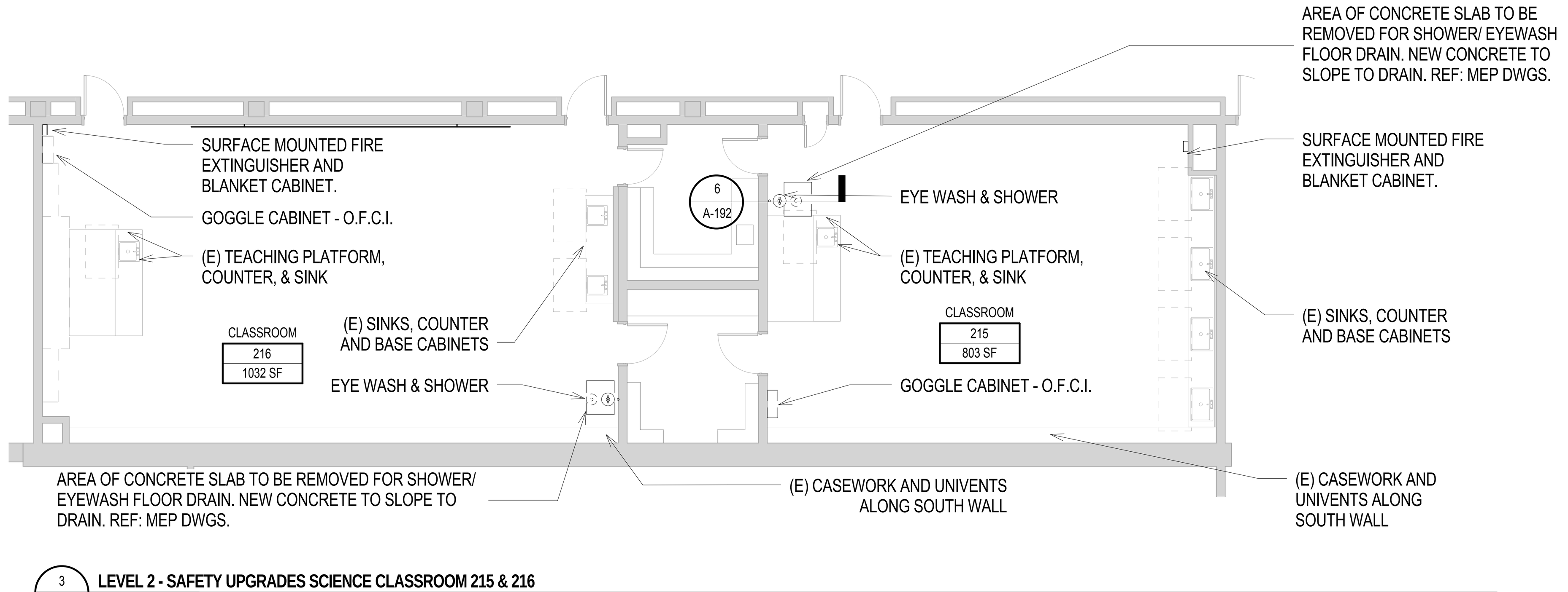


1 A-192 **LEVEL 2 - SAFETY UPGRADES - SCIENCE CLASSROOM 206 & 207**
1/8" = 1'-0"



CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF DRAIN IS CENTERED BETWEEN CONCRETE JOISTS & CLEAR OF OBSTRUCTIONS BELOW. CONTACT ARCHITECT TO VERIFY LOCATION AND IF DRAIN IS IN CONFLICT WITH STRUCTURE OR OTHER BUILDING ELEMENTS BEFORE PROCEEDING WITH WORK.

6 A-192 **FLOOR DRAIN DETAIL FOR EYEWASH/SHOWER & SCIENCE PREP.**
1" = 1'-0"



3 A-192 **LEVEL 2 - SAFETY UPGRADES SCIENCE CLASSROOM 215 & 216**
1/8" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MS
DRAWN BY: AD
CHECKED BY: KM
DATE: 04/07/17
SCALE: AS NOTED

ENLARGED FLOOR PLANS, ROOM FINISH SCHEDULE

CUNINGHAM GROUP
Cuningham Group Architecture, Inc.
www.cuningham.com
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. A-192

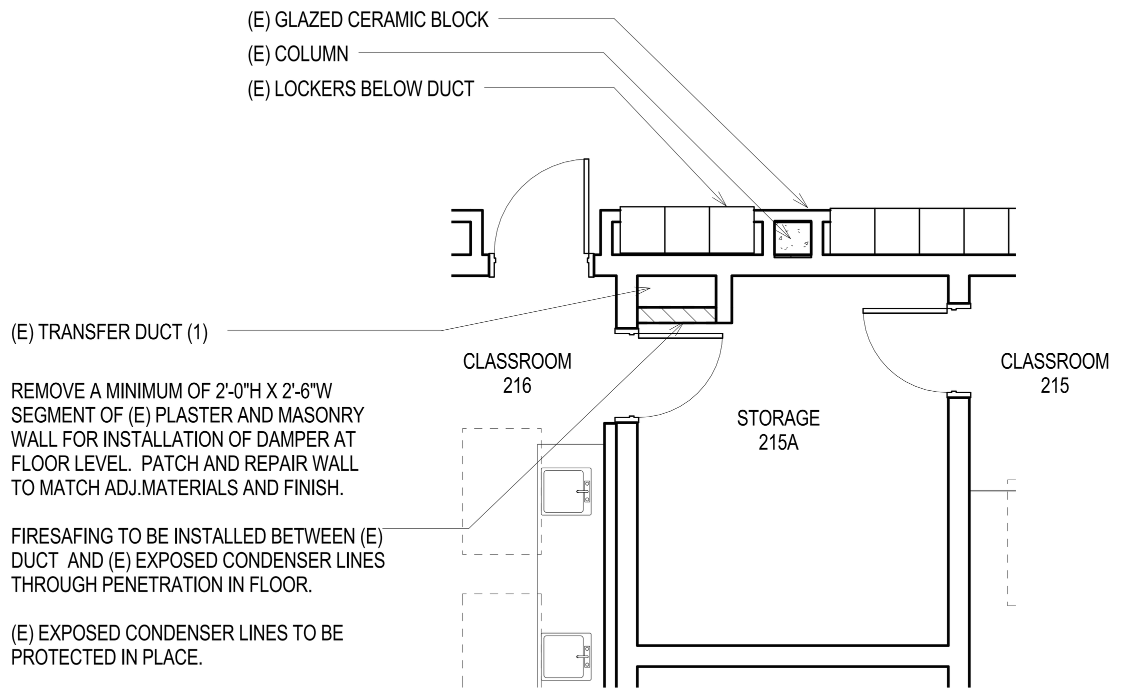
PICTURE 01 - VIEW DOWN TRANSFER DUCT 1 IN ZONE 1

PICTURE 02 - INSIDE STORAGE 215A SHOWING WALL FOR DEMOLITION

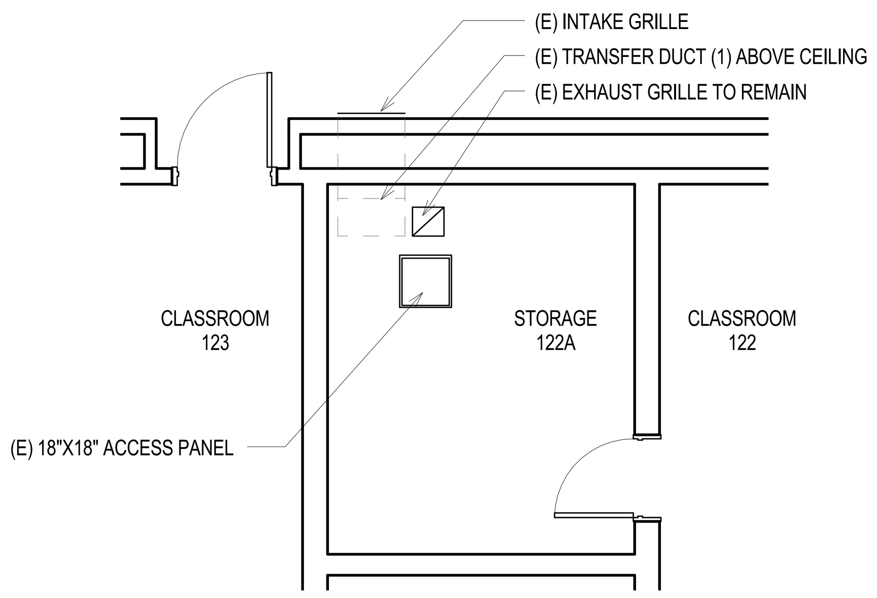
PICTURE 03 - INSIDE STORAGE 122A SHOWING (E) ACCESS PANEL & GRILLE

PICTURE 04 - CLASSROOM 202. SHOWING CASEWORK AND GLAZED TILE

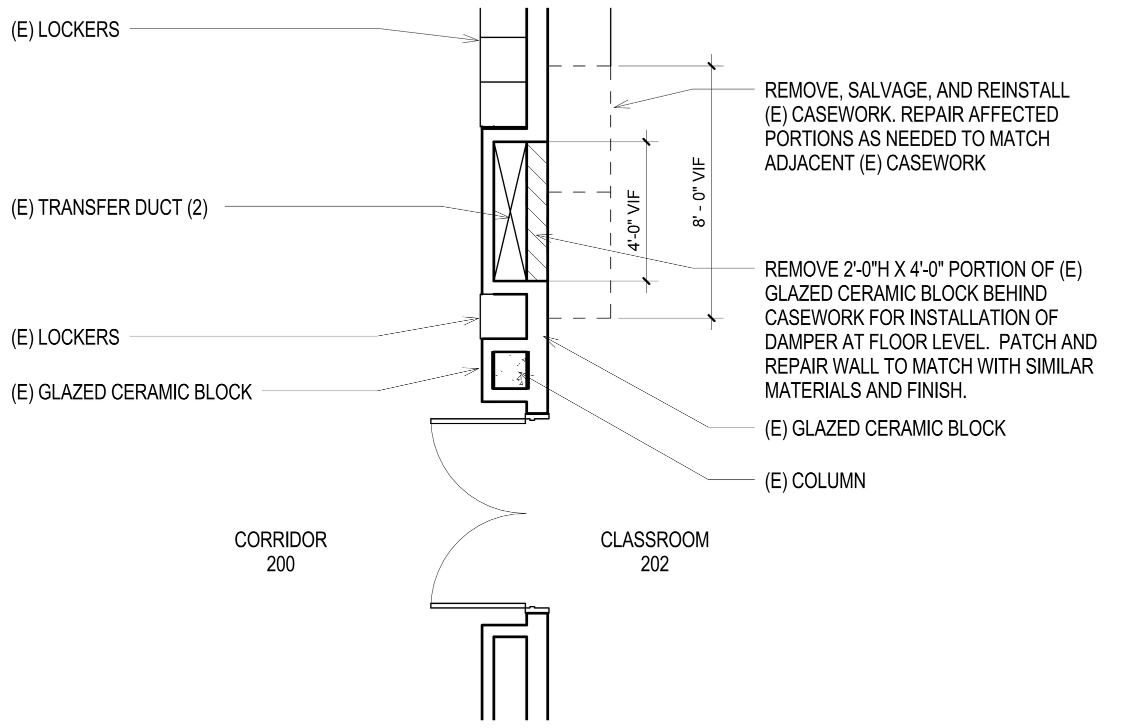
PICTURE 05 - CLASSROOM 208. SHOWING GLAZED TILE



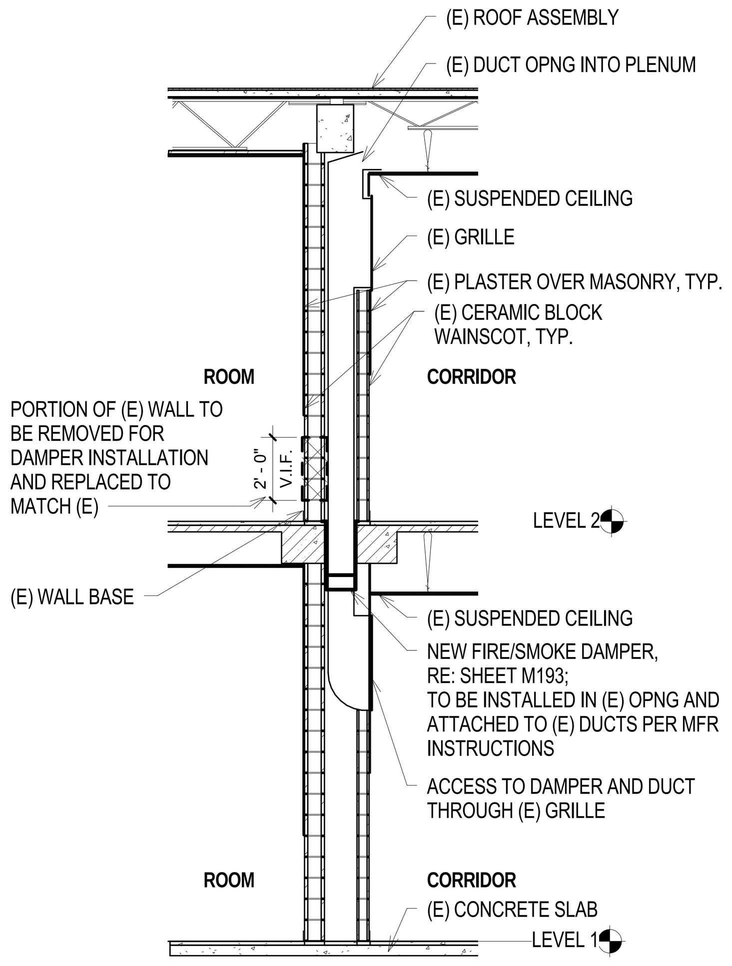
3 A-193 LEVEL 2 - F.S.D. PLAN AT STOR 215A - TRANSFER ZONE 1, DUCT 1
1/4" = 1'-0"



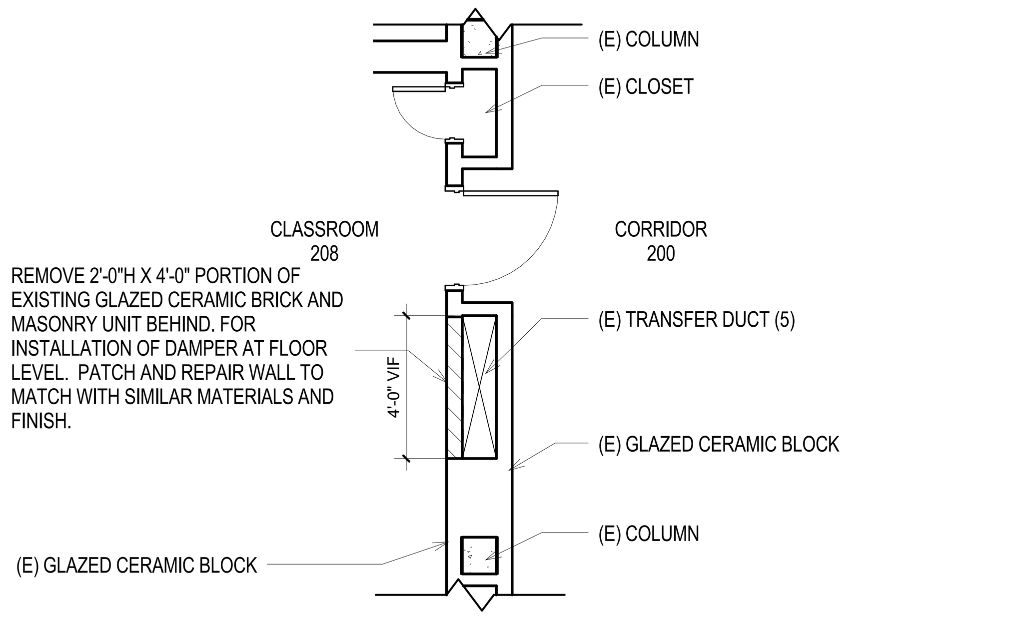
4 A-193 LEVEL 1 - F.S.D. CEILING PLAN AT STOR. 122A - TRANSFER ZONE 1, DUCT 1
1/4" = 1'-0"



2 A-193 LEVEL 2 - F.S.D. AT CLASSROOM 202 - TRANSER ZONE 2, DUCT 2
1/4" = 1'-0"



5 A-193 TYP. WALL SECTION AT TRANSFER ZONE AT LEVELS 1 - 2
1/4" = 1'-0"



1 A-193 LEVEL 2 - F.S.D PLAN AT CLASSROOM 208 - TRANSFER ZONE 3, DUCT 5
1/4" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT

DATE:

DESIGNED BY:	MS
DRAWN BY:	AD
CHECKED BY:	KM
DATE:	04/07/17
SCALE:	AS NOTED

FIRE DAMPER LOCATIONS

CUNINGHAM GROUP
Cuningham Group Architecture, Inc.
www.cuningham.com
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2014 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. A-193

MECHANICAL SYMBOLS

PIPING

HYDRONIC PIPING

Symbol	Description
CS	CONDENSER WATER SUPPLY PIPING
CR	CONDENSER WATER RETURN PIPING
CD	CONDENSATE DRAIN PIPING

STEAM PIPING

Symbol	Description
HPS	HIGH PRESSURE STEAM SUPPLY PIPING
HPR	HIGH PRESSURE STEAM RETURN PIPING
MPS	MEDIUM PRESSURE STEAM SUPPLY PIPING
MPR	MEDIUM PRESSURE STEAM RETURN PIPING
LPS	LOW PRESSURE STEAM SUPPLY PIPING
LPR	LOW PRESSURE STEAM RETURN PIPING
CPDH	CONDENSATE PUMP DISCHARGE PIPING – HEATING
CPDC	CONDENSATE PUMP DISCHARGE PIPING – COOLING

PLUMBING

Symbol	Description
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RECIRC. PIPING
140°	140°F DOMESTIC HOT WATER PIPING
140°	140°F DOMESTIC HOT WATER RECIRC. PIPING
SAN	SANITARY PIPING
V	VENT PIPING
LPG	LIQUEFIED PETROLEUM GAS PIPING
G	NATURAL GAS PIPING

VALVES / SYMBOLS

- DIRECTION OF FLOW IN PIPING
- CONTROL VALVE
- THREE WAY CONTROL VALVE
- SOLENOID VALVE
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- BALL VALVE
- THERMOSTATIC TRAP
- F&T TRAP
- GATE VALVE
- PRESSURE GAUGE
- THERMOMETER, THERMOMETER W/ TEST WELL
- PRESSURE/TEMPERATURE PORT
- UNION
- FLANGE CONNECTION
- PIPING ELBOW UP
- PIPING ELBOW DOWN
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING TEE
- 90° ELBOW
- PIPING CAP
- GAUGE COCK
- PIPING REDUCER
- PRESSURE REGULATING VALVE
- FLEXIBLE CONNECTOR
- MANUAL AIR VENT

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS.

Symbol	Description
	LINEAR SLOT DIFFUSER
	INSULATED FLEXIBLE DUCT (MAXIMUM 4'–0" LONG)
	BRANCH DUCT WITH 45° TAP AND MANUAL VOLUME DAMPER
	BRANCH DUCT WITH CONICAL FITTING AND MANUAL VOLUME DAMPER
	ELBOW WITH TURNING VANES
	SUPPLY OR OUTSIDE AIR DUCT UP
	SUPPLY OR OUTSIDE AIR DUCT DOWN
	RETURN OR TRANSFER AIR DUCT UP
	RETURN OR TRANSFER AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN
SD–1 / 10"ø / 250	TYPE, NECK SIZE, CFM AT SUPPLY DIFFUSER OR REGISTER – ARROWS DIR. THROW
RG–1 / 10x10 / 250	TYPE, THROAT SIZE, CFM AT RETURN GRILLE OR REGISTER
ER–1 / 10x10	TYPE, SIZE AT EXHAUST GRILLE OR REGISTER
	MANUAL VOLUME CONTROL DAMPER
	SQUARE TO ROUND TRANSITION
T	THERMOSTAT
H	HUMIDISTAT
CO_2	CARBON DIOXIDE SENSOR
TS	TEMPERATURE SENSOR
FD	FIRE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
SD	SMOKE DAMPER
M	MOTORIZED DAMPER
	ROUND/OVAL DUCT RISER
12x6	RECTANGULAR DUCT (PLAN DIMENSION SHOWN FIRST)
12"ø	ROUND DUCT
30x24 ⊖	FLAT OVAL DUCT (PLAN DIMENSION SHOWN FIRST)
	FLEXIBLE DUCT CONNECTION
	TRANSITION IN DUCT SIZE
	OPPOSED BLADE DAMPER
	PARALLEL BLADE DAMPER

DIRECT DIGITAL CONTROLS

Symbol	Description
T	TEMPERATURE SENSOR WITH THERMOWELL
T	DUCT MOUNTED TEMPERATURE SENSOR
LLT	LOW LIMIT TEMPERATURE SENSOR
DPS	DIFFERENTIAL PRESSURE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
HI/LO DPT	HI/LO DIFFERENTIAL PRESSURE TRANSMITTER
AFS	AIR FLOW STATION
C / C	CHILLED WATER COOLING COIL
H / C	HOT WATER HEATING COIL
DX / C	DX COOLING COIL

MISCELLANEOUS

Symbol	Description
1 / M1	SECTION CUT, UPPER NUMBER INDICATED DRAWING NUMBER LOWER NUMBER INDICATES SHEET NUMBER
	CONNECTION POINT OF NEW WORK TO EXISTING
1 / M1	DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
#	RISER DESIGNATION
X	NOTE REFERENCE SYMBOL

ABBREVIATIONS

A/C	AIR CONDITIONING
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
BD	BACKDRAFT DAMPER, BLOWDOWN
BFF	BELOW FINISHED FLOOR
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CT	COOLING TOWER
CD	CONDENSATE DRAIN (COLD)
CDR	CONDENSER WATER RETURN
CDS	CONDENSER WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CR	CONDENSATE RETURN
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRCU	COMPUTER ROOM CONDENSING UNIT
CU	CONDENSING UNIT
CW	COLD WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EPO	EMERGENCY POWER OFF
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EWC	ELECTRIC WATER COOLER
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER, FLOOR DRAIN
FF	FINISHED FLOOR
FLR	FLOOR
FPC	FIRE PROTECTION CONTRACTOR
FSD	FIRE/SMOKE DAMPER
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
GND	GROUND
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER, HEAT PUMP
HSTAT	HUMIDISTAT
HTG	HEATING
HTR	HEATER
HVU	HEATING AND VENTILATING UNIT
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
IE	INVERT ELEVATION
IN WC	INCHES OF WATER COLUMN
LAT	LEAVING AIR TEMPERATURE
DB	DRY BULB
LF	LINEAR FEET
LP	LOW PRESSURE, LIQUID PROPANE
LRA	LOCKED ROTOR AMPS
WB	WET BULB
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MTD	MOUNTED
MAU	MAKE UP AIR UNIT
N/A	NOT APPLICABLE
NC	NOISE CRITERIA, NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
P	PRESSURE
PCR	PUMPED CONDENSATE RETURN
PH,Ø	PHASE
PIV	POST INDICATOR VALVE
PRV	PRESSURE REDUCING VALVE
QTY	QUANTITY
RA	RETURN AIR
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REV	REVISION
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SQUARE FEET, SUPPLY FAN
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY SEWER
ST	SOUND TRAP, STEAM TRAP, STORM LINE
STC	SOUND TRANSMISSION COEFFICIENT
STM	STEAM
T	TEMPERATURE
TA	TRANSFER AIR
TD	TRANSFER DUCT
TDH	TOTAL DYNAMIC HEAD
TSTAT	THERMOSTAT
TWU	THROUGH WALL AIR CONDITIONING UNIT
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VTR	VENT THROUGH ROOF
W	WITH
W/O	WITHOUT
WB	WET BULB
WCO	WALL CLEANOUT
WC	WATER COLUMN
WG	WATER GAGE
WPD	WATER PRESSURE DROP
WP	WEATHERPROOF
WT	WATERTIGHT, WEIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

STANDARD MOUNTING HEIGHTS U.N.O.

MECHANICAL

THERMOSTATS (USER ADJ.)	48" (ADA)/ 60"
CONTROLS (CENTERLINE)	48" (ADA)/ 60"

MECHANICAL GENERAL NOTES

1. THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCH. PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
2. CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING A BID TO COVER THE CONDITIONS AT THE SITE INFORMING THEMSELVES OF ALL DETAILS.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ORDINANCES, AND ALL AUTHORITIES HAVING JURISDICTION.
4. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNER'S DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
5. RECORD DRAWINGS – PREPARE AND SUBMIT TO THE OWNER RECORD DRAWINGS INDICATING THE EXACT LOCATION OF ALL EQUIPMENT INCLUDING THE EQUIPMENT'S "AS INSTALLED" SIZE(S). MANUFACTURER, MODEL NUMBERS, AND PERFORMANCE RATINGS.
6. SUPPORTS – EQUIPMENT, PIPING, DUCTWORK OR ANY OTHER ACCESSORY SHALL NOT BE SUPPORTED FROM OTHER PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACING BRIDGING, OR CONDUIT. ITEMS SHALL ONLY BE SUPPORTED FROM BUILDING STRUCTURE.
7. COORDINATE EXACT LOCATION OF ALL DUCTWORK, AIR TERMINAL UNITS, PIPING, ETC., WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND OTHER MECHANICAL SYSTEMS.
8. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
9. ALL DUCTWORK, PIPING, AND TEMPERATURE CONTROL CONDUIT TO VIBRATING EQUIPMENT SHALL HAVE FLEXIBLE CONNECTORS.
10. COORDINATE ALL ROOF AND CHASE PENETRATIONS WITH STRUCTURAL DRAWINGS AND ROOF INSTALLER.
11. OWNER TO HAVE CHOICE SALVAGE OF ALL PLUMBING FIXTURES AND MECHANICAL EQUIPMENT WHICH ARE PLANNED TO BE REMOVED BY CONTRACTOR. EQUIPMENT NOT SALVAGED BY OWNER SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR. CONTACT TIM SEVERANCE 720–641–4771 REGARDING FIXTURES TO BE DISPOSED/SALVAGED.
12. BEFORE REMOVAL OF ANY MECHANICAL EQUIPMENT, CONTRACTOR SHALL RECOVER USED REFRIGERANT IN A PROPERLY LABELED D.O.T. APPROVED REFILLABLE CYLINDER TO MEET E.P.A. STANDARDS. RECOVERED REFRIGERANT MUST BE CHEMICALLY ANALYZED AND REPROCESSED OR DISPOSED OF PER E.P.A. REQUIREMENTS, SECTION 608 OF THE CLEAN AIR ACT AND A.R.I. STANDARD 700.
13. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
14. ALL SUPPLY DUCTWORK SHALL BE WRAPPED WITH INSULATION FROM FAN TO ROOM TERMINAL UNITS. RECTANGULAR BRANCH TAKE–OFF SUPPLY DUCTWORK FROM ROOM TERMINAL UNITS SHALL BE WRAPPED WITH INSULATION. ALL ROUND SUPPLY DUCTWORK SHALL BE WRAPPED WITH INSULATION. ALL RELIEF AIR/EXHAUST DUCTS SHALL BE WRAPPED WITH INSULATION FROM EXTERIOR OPENING TO BACKDRAFT DAMPERS. ALL OUTSIDE AIR (OA) DUCTWORK TO BE WRAPPED WITH INSULATION FROM INTAKE OPENING TO THE MIXED AIR PLENUM.
15. CONTRACTOR TO COORDINATE DUCTWORK WITH FIRE RATED WALLS AND FLOORS SHOWN ON ARCHITECTURAL DRAWINGS, MAINTAINING NECESSARY RATING OF WALLS. CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS TO SMOKE–FIRE DAMPERS.
16. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
17. PROVIDE ALL 90 DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN DISHWASHER, KITCHEN, AND LAUNDRY EXHAUST SHALL BE UNVANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1.5 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.
18. CONTRACTOR SHALL COORDINATE LOCATION OF ALL DIFFUSERS AND GRILLES WITH STRUCTURAL, ELECTRICAL, AND ARCHITECTURAL REFLECTED CEILING PLANS.
19. MECHANICAL CONTRACTOR IS COMPLETELY RESPONSIBLE FOR PROVIDING ALL PRESSURE AND/OR TEMPERATURE TAPS IN PIPING AS REQUIRED FOR PROPER BALANCING OF ALL SYSTEMS.
20. ACCESS PANELS ARE REQUIRED (MIN. 18"X18") FOR ACCESS TO EVERY VALVE, DAMPER, AIR TERMINAL UNIT, AND CONTROL SENSOR IF NOT OTHERWISE ACCESSIBLE. ACCESS PANEL SHALL BE APPROVED BY ARCHITECT/ENGINEER.

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

MEGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

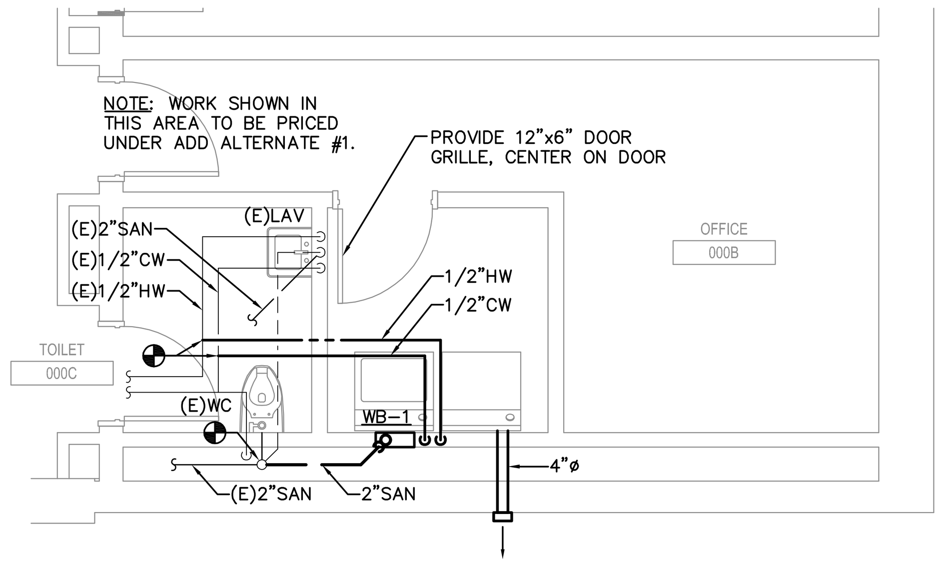
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

MECHANICAL LEGEND AND NOTES

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

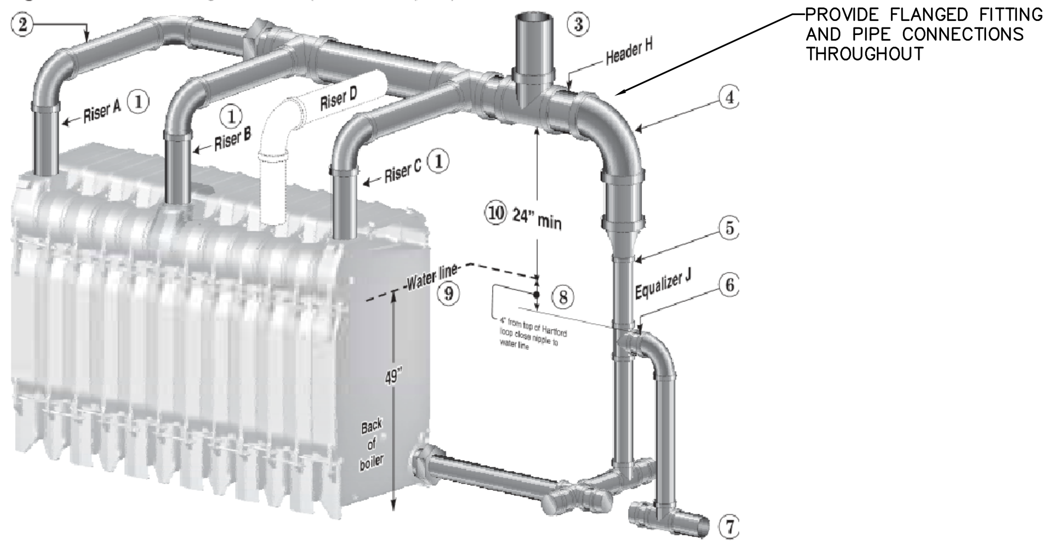
DWG NO. M001



2 BASEMENT LEVEL - STORAGE ROOM MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

Figure 25 Model 1288 through 1888 steam (3 or 4 risers required)



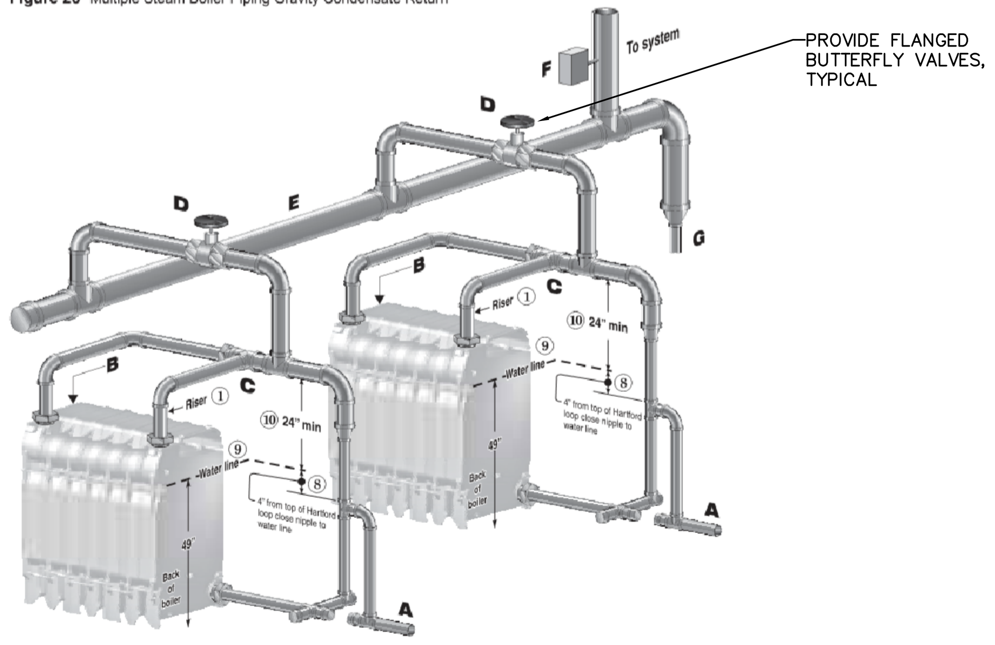
Pipe Dimensions	Model	Riser A	Riser B	Riser C	Riser D	Header H	Equalizer J
	1588	5"	5"	5"	NA	10"	4"

Drawing legend & notes

(Figure 23 through Figure 26)

1 Riser pipes (one for each supply intermediate section)
2 Horizontal pipes needed to offset the header to allow for expansion and contraction of the header
3 Steam supply must be located between last riser connection and equalizer elbow
4 Equalizer elbow — full size or reducing
5 Equalizer pipe
6 Close nipple at Hartford loop tee to reduce water hammer potential
7 Condensate return line (gravity or pumped)
8 Minimum 4 inches between water line and top of Hartford loop return nipple
9 Boiler water line — all automatic water level controls must be set to maintain this level
10 Minimum 24 inches between water line and bottom of header

Figure 26 Multiple Steam Boiler Piping Gravity Condensate Return



A Pipe as shown for gravity return systems, connecting point **A** to the wet gravity return.
- For pumped-return systems, install boiler water level control on each boiler with body mark at level indicated in Figure 42, page 28. Provide at point **A** either:
- Separate feed pumps and check valves for each boiler, or . . .
- Single feed pump, with separate solenoid valve for each boiler.

B For pumped-return systems, install a combination float and thermostatic trap on each boiler to prevent flooding of one boiler while other boiler is firing. Install trap in skim tapping (see Figure 39, page 27). Connect traps to condensate receiver.

Gravity-return systems are self-levelling if the wet returns are piped to the common system wet return.

C Install boiler piping as shown in the preceding pages of this manual.

D Install stop valves per ASME code requirements.
- For pump-return systems, if using automatic steam valves, use only slow-opening automatic valves. Use a Weil-McLain Boiler Control System (such as a BCP panel) to open each steam valve automatically before firing burner.

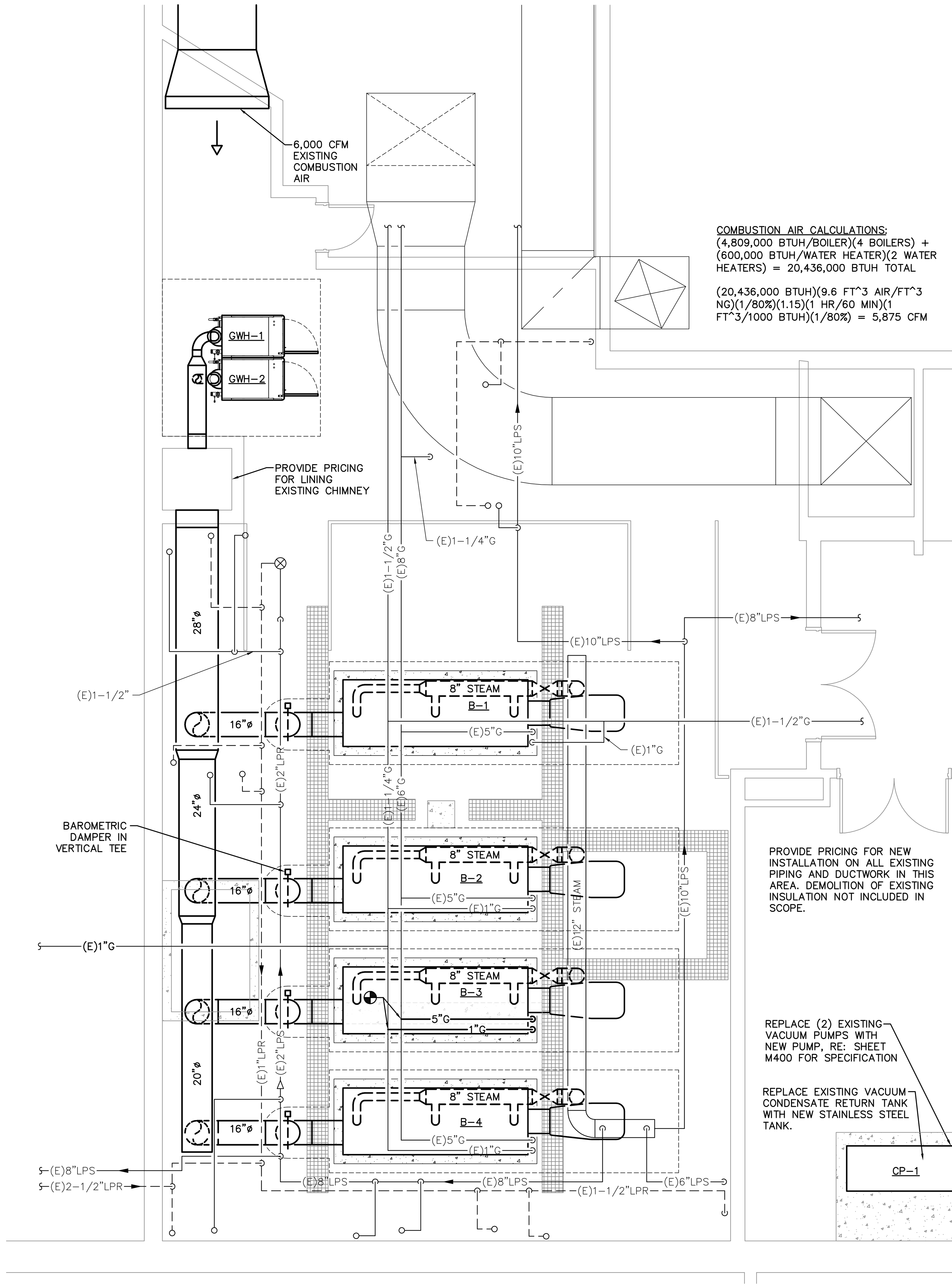
E Construct common supply drop header with pipe size at least same size as largest boiler header size.

F Use:
- A Weil-McLain Boiler Control System (such as a BCP panel) with header-mounted pressure control(s) to sequence boilers, or . . .
- A steam pressure controller.

G Install drip line in common supply drop header.
- Gravity-return: Pipe drip line to wet return.
- Pumped-return: Use combination float and thermostatic trap and drain to condensate receiver.

3 BOILER INSTALLATION DIAGRAMS

SCALE: 1/4" = 1'-0"



COMBUSTION AIR CALCULATIONS:
(4,809,000 BTUH/BOILER)(4 BOILERS) + (600,000 BTUH/WATER HEATER)(2 WATER HEATERS) = 20,436,000 BTUH TOTAL

(20,436,000 BTUH)(9.6 FT^3 AIR/FT^3 NG)(1/80%)(1.15)(1 HR/60 MIN)(1 FT^3/1000 BTUH)(1/80%) = 5,875 CFM

PROVIDE PRICING FOR NEW INSTALLATION ON ALL EXISTING PIPING AND DUCTWORK IN THIS AREA. DEMOLITION OF EXISTING INSULATION NOT INCLUDED IN SCOPE.

REPLACE (2) EXISTING VACUUM PUMPS WITH NEW PUMP, RE: SHEET M400 FOR SPECIFICATION

REPLACE EXISTING VACUUM CONDENSATE RETURN TANK WITH NEW STAINLESS STEEL TANK.

1 BASEMENT LEVEL - BOILER ROOM MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS

DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216

911 S. HAZEL CT. DENVER, CO 80219

MEGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

APPROVED CONTRACT DOCUMENT

DATE:

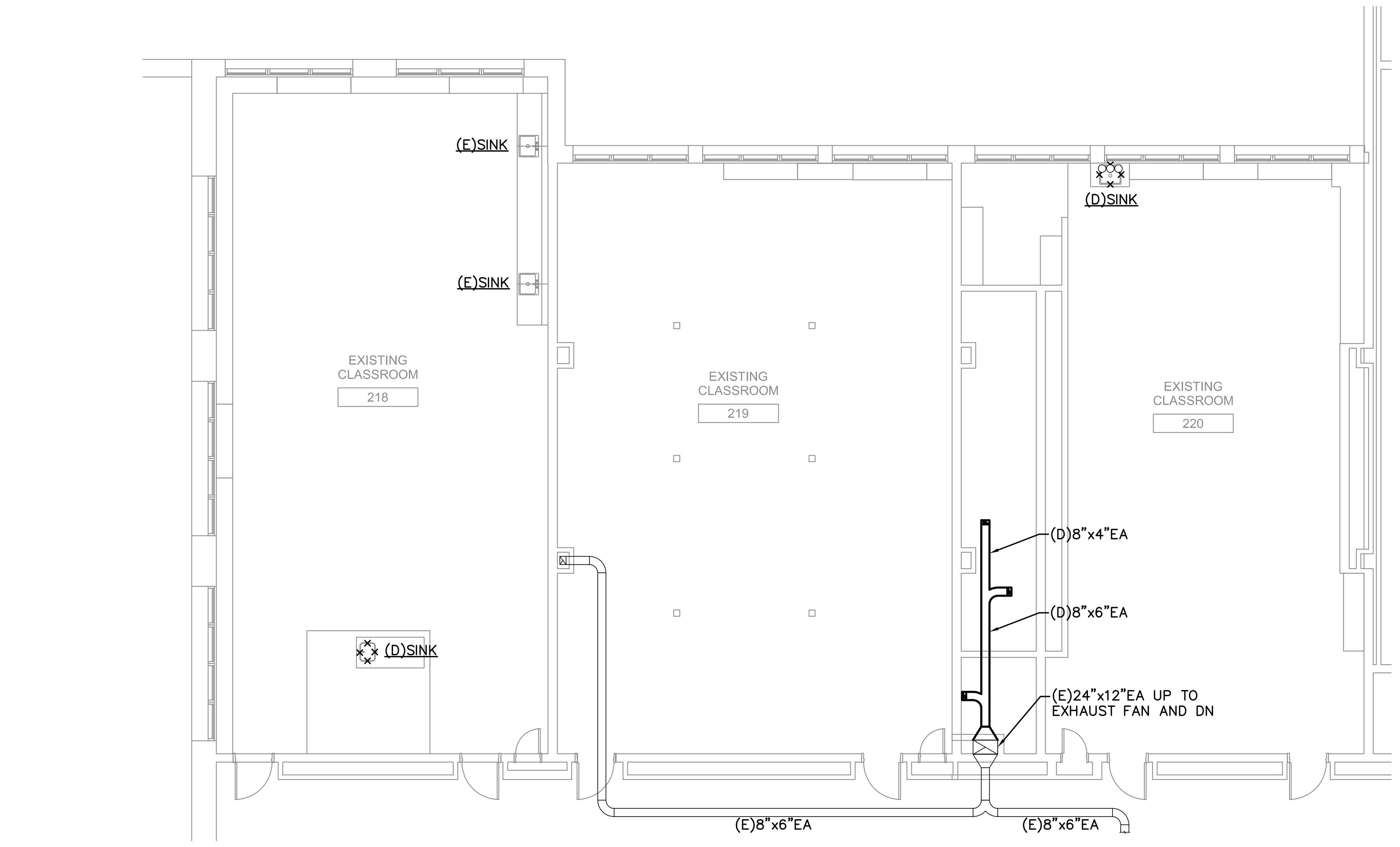
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

ENLARGED MECHANICAL PLANS

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

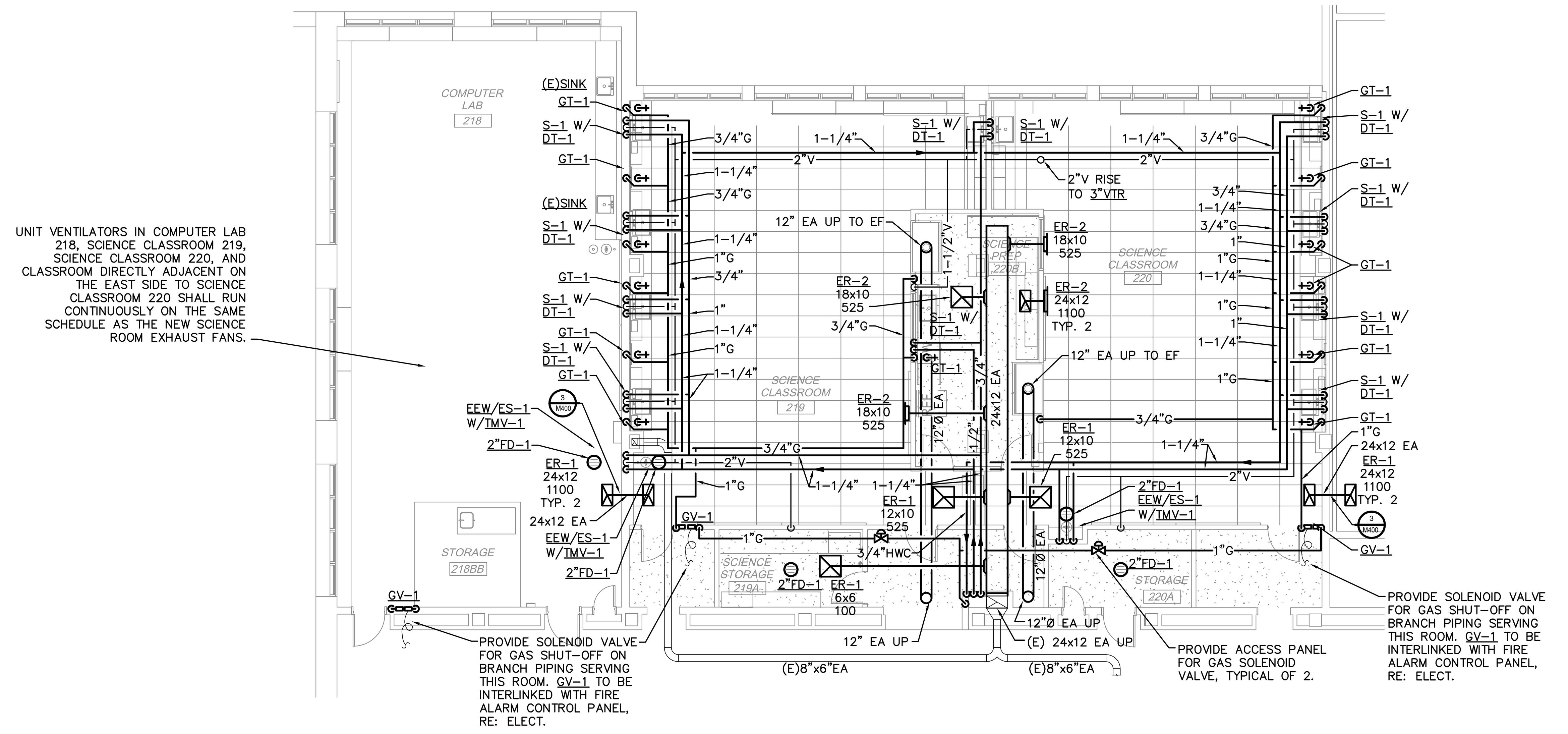
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. M190



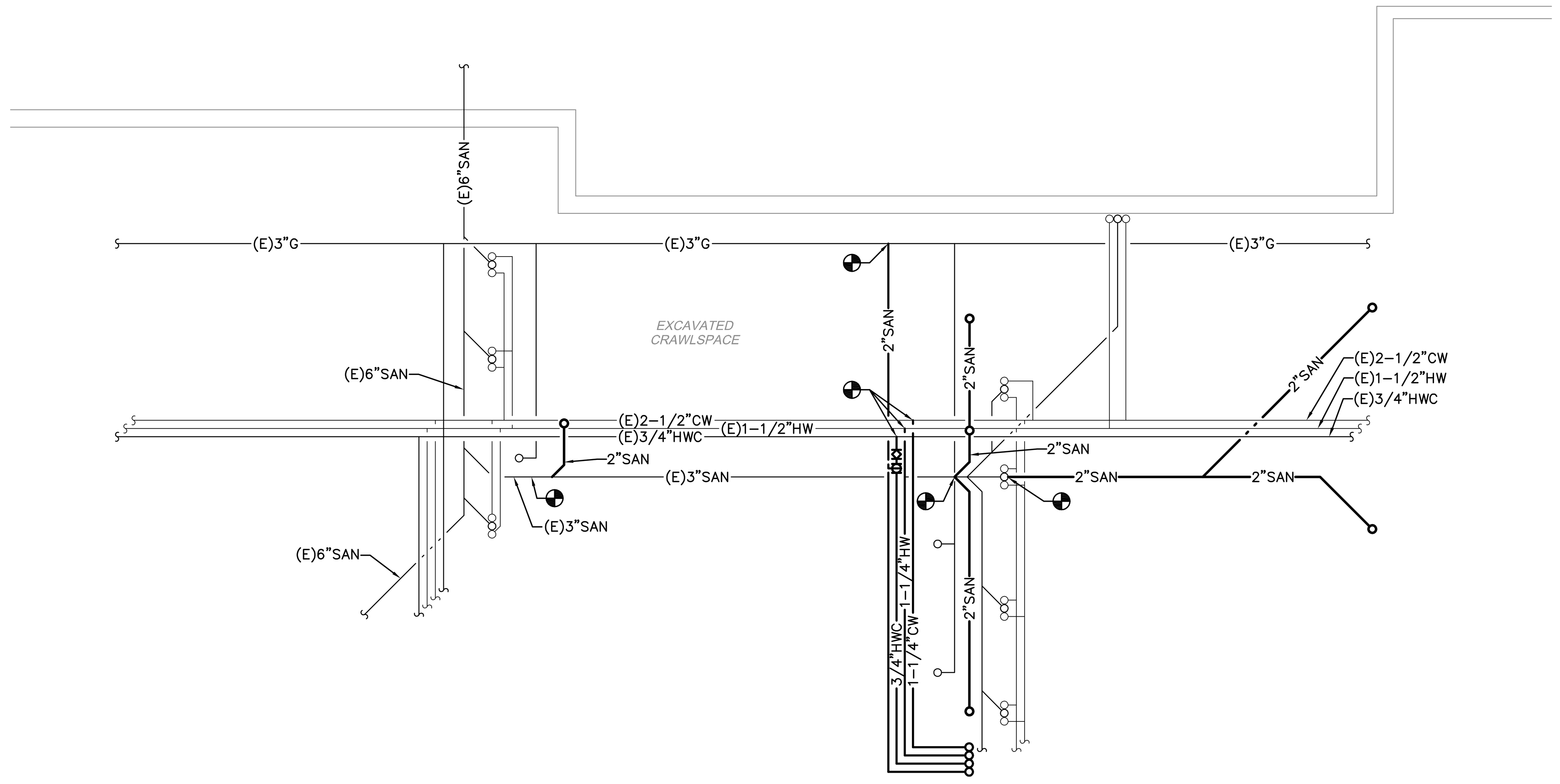
1 LEVEL 2 - ROOMS 218/219/220 - MECHANICAL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



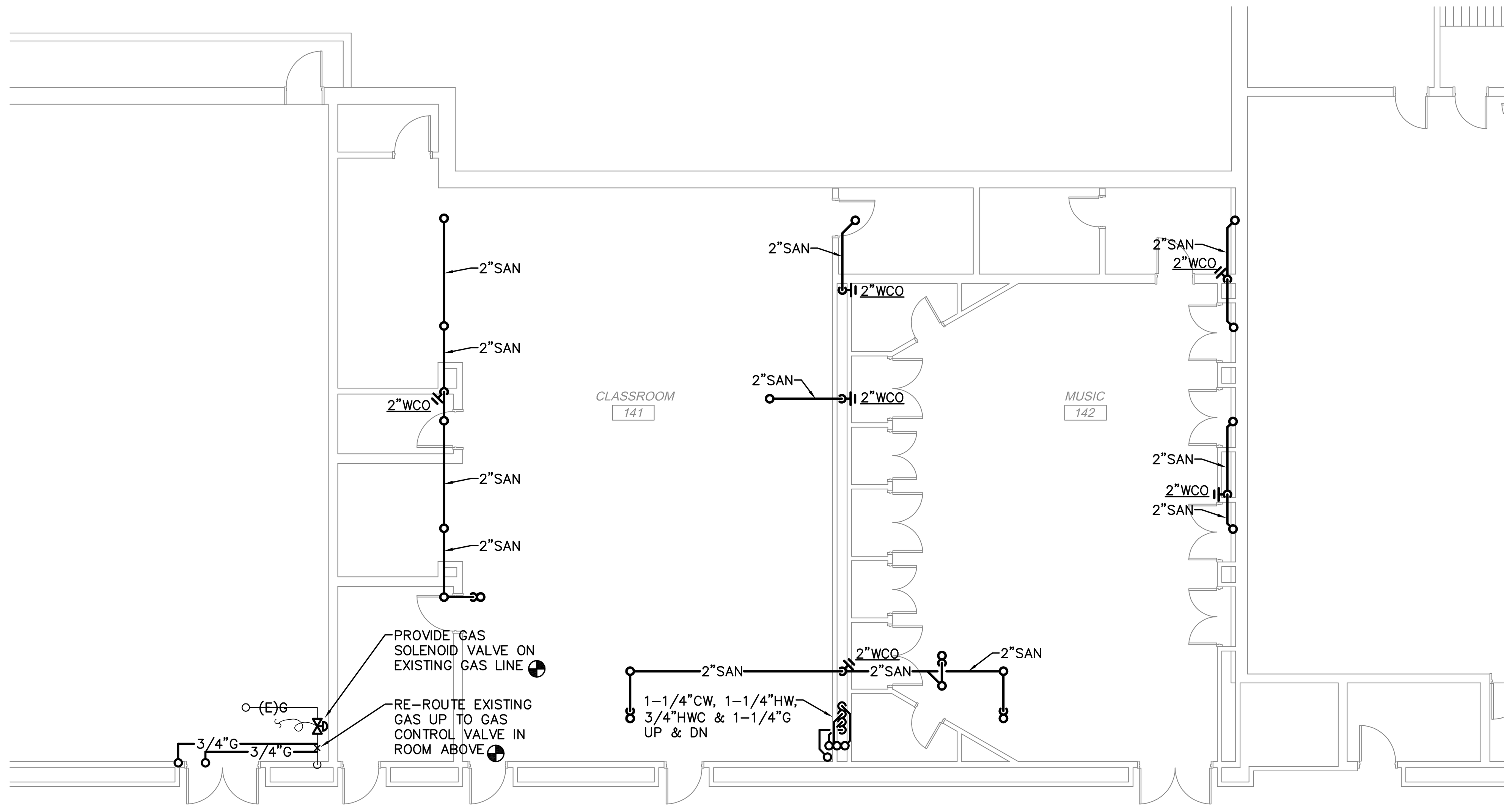
2 LEVEL 2 - ROOMS 219/220 - MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



4 CRAWLSPACE - BELOW ROOMS 141/142 - MECHANICAL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



3 LEVEL 1 - ROOMS 141/142 - MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

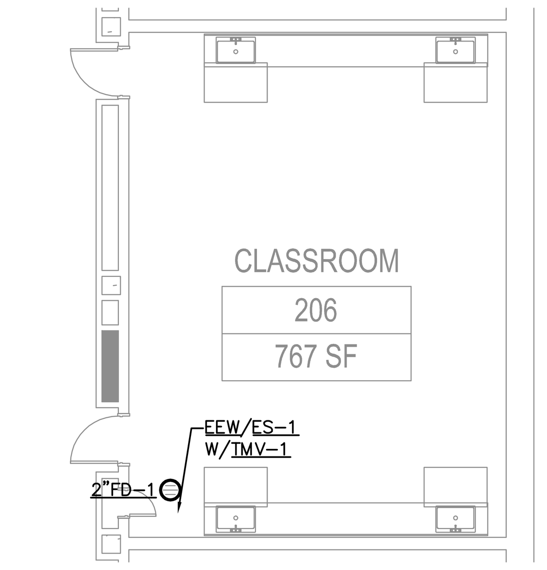
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

ENLARGED MECHANICAL PLANS - SCIENCE ROOMS

meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

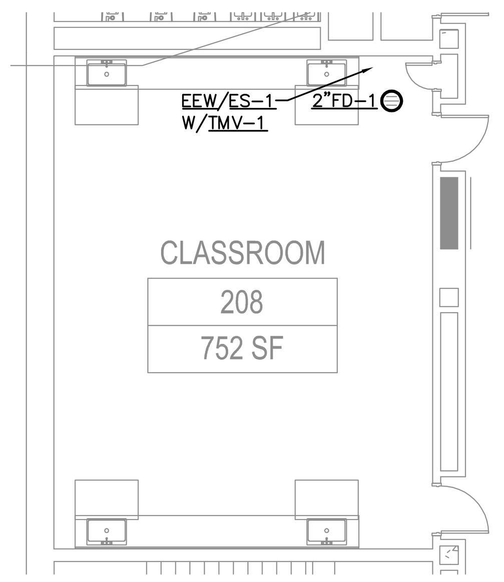
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602
www.cuningham.com
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. M191



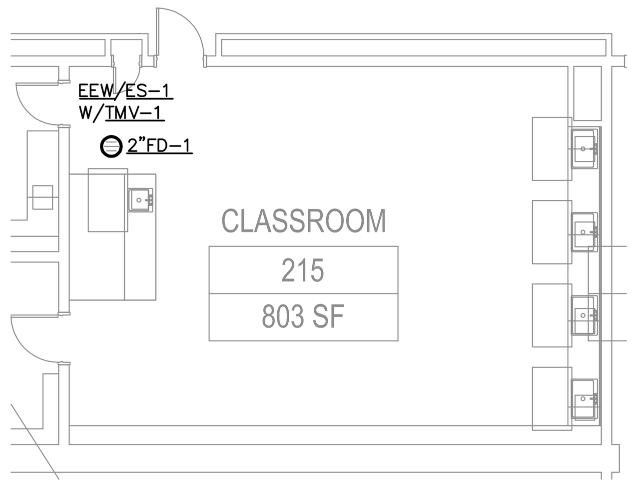
1 CLASSROOM 206 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



2 CLASSROOM 208 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



3 CLASSROOM 215 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

LEVEL 2 KEYPLAN

1/64" = 1'-0"

me GROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS

DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216

911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT

DATE:

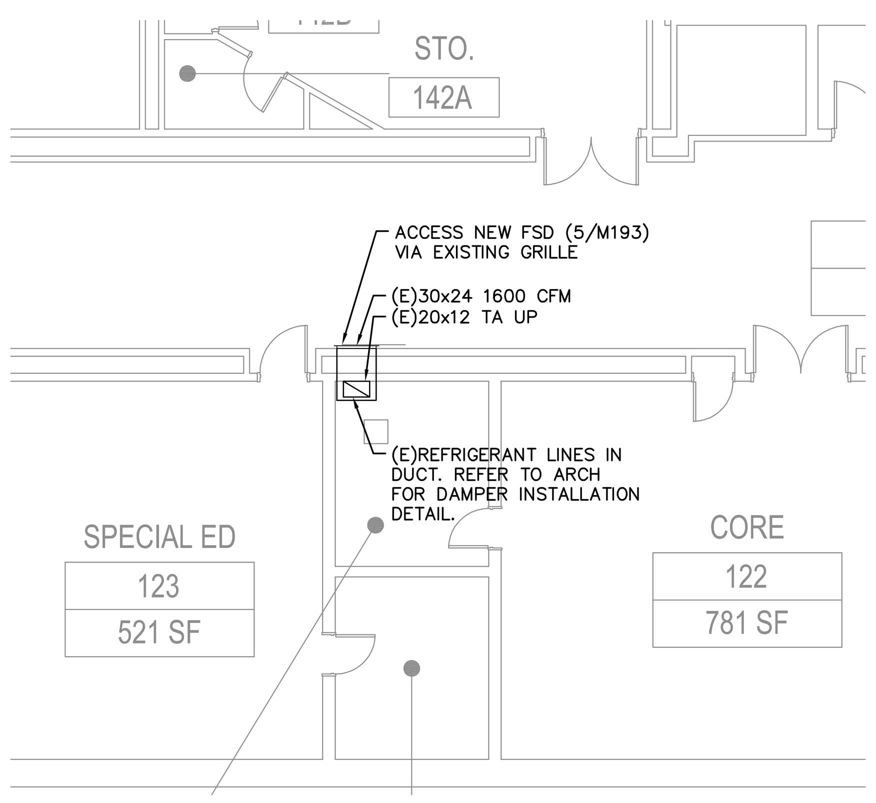
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

ENLARGED MECHANICAL PLANS - SCIENCE ROOMS

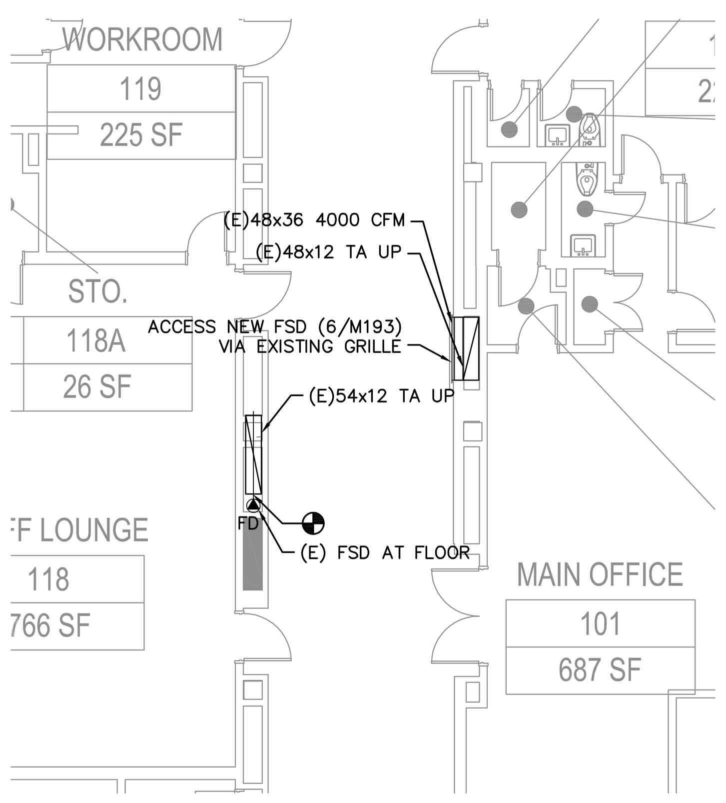
Cuningham Group Architecture, Inc.
www.cuningham.com
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

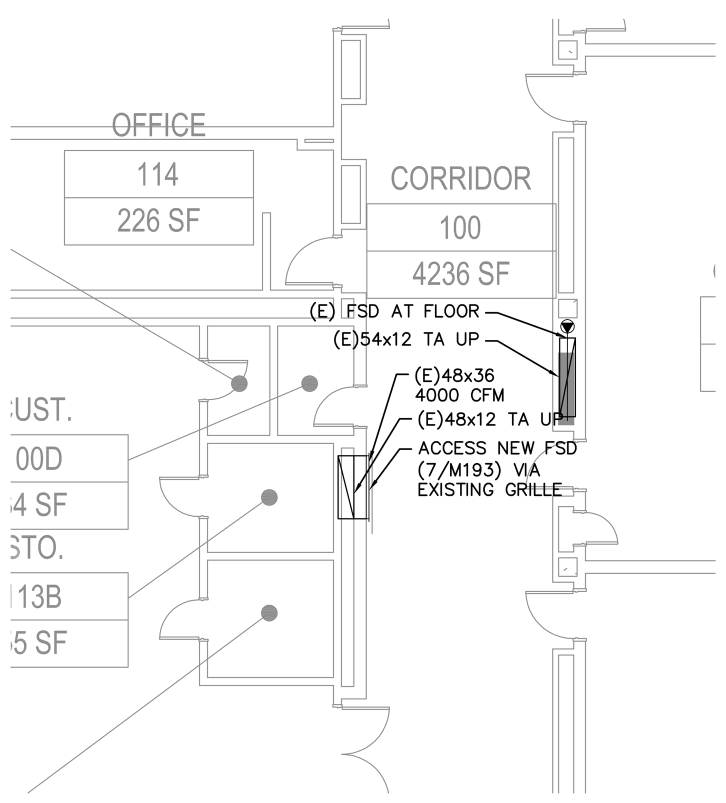
DWG NO. M192



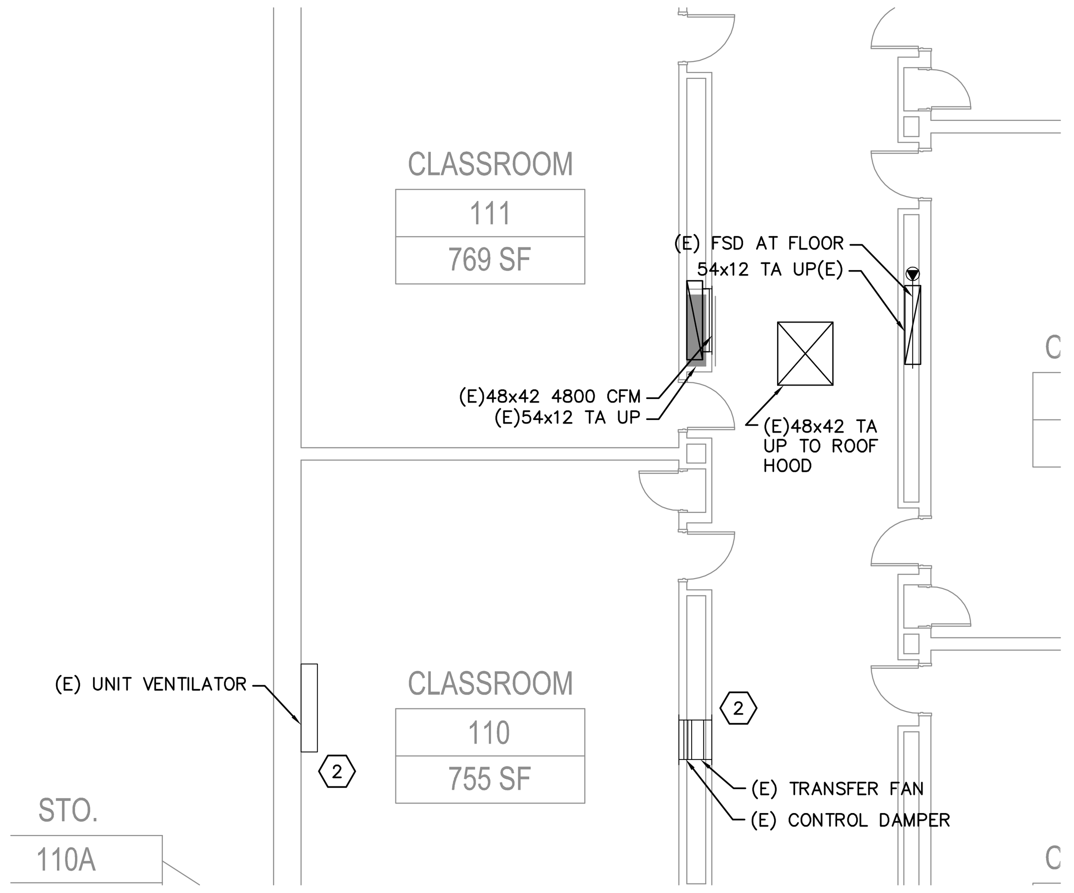
LEVEL 1 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 1
1
SCALE: 1/8" = 1'-0"



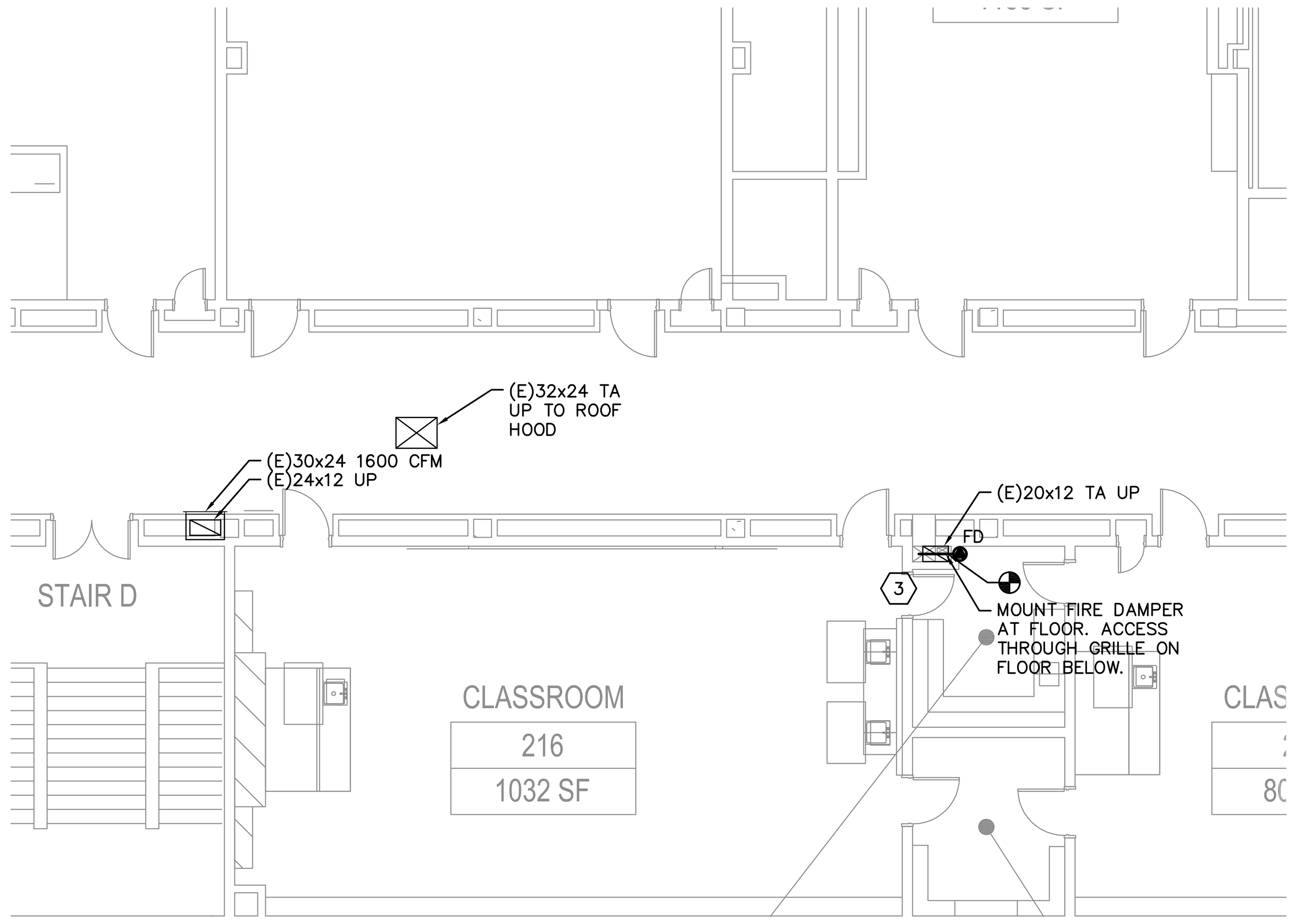
LEVEL 1 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 2
2
SCALE: 1/8" = 1'-0"



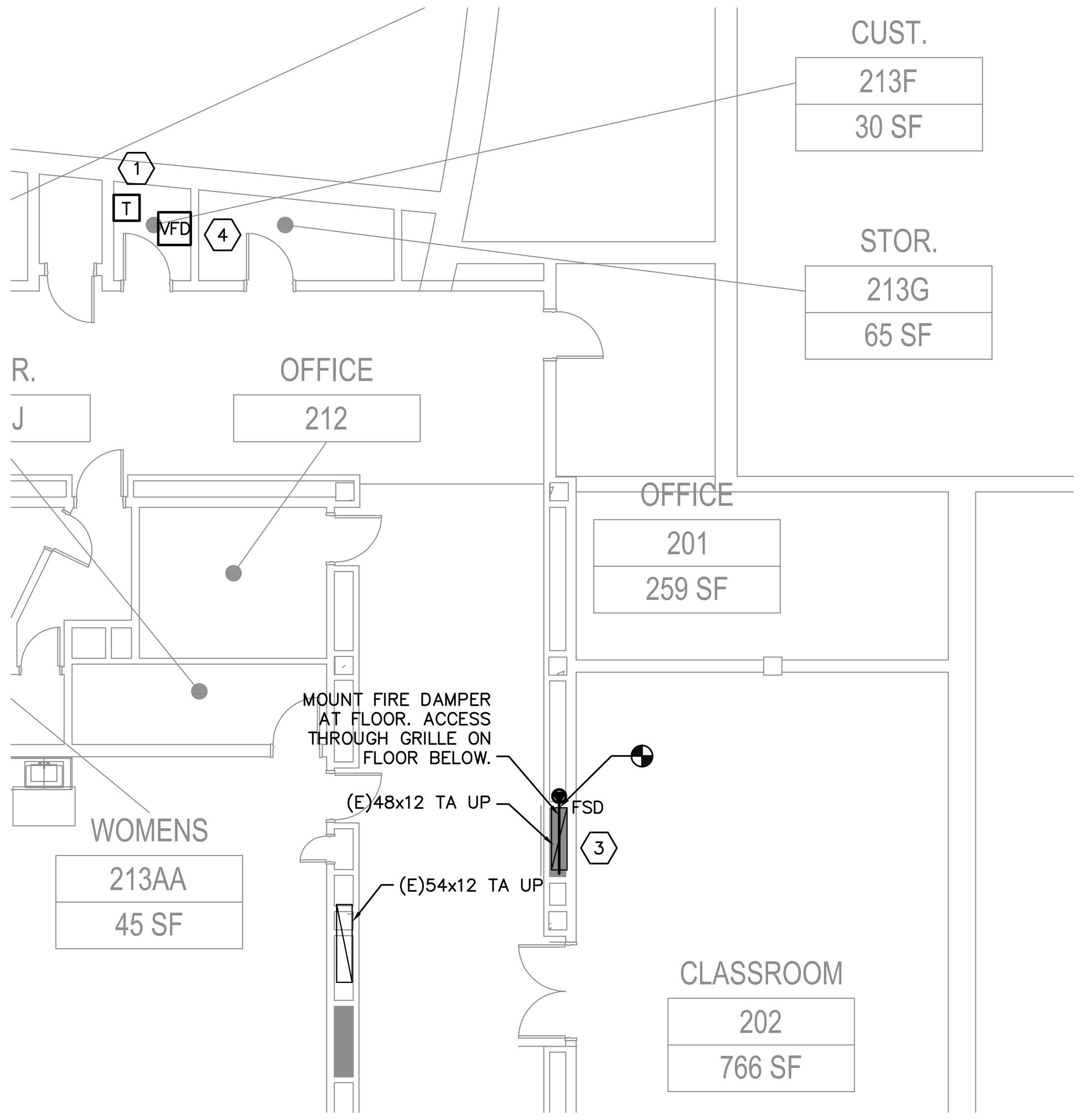
LEVEL 1 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 3
3
SCALE: 1/8" = 1'-0"



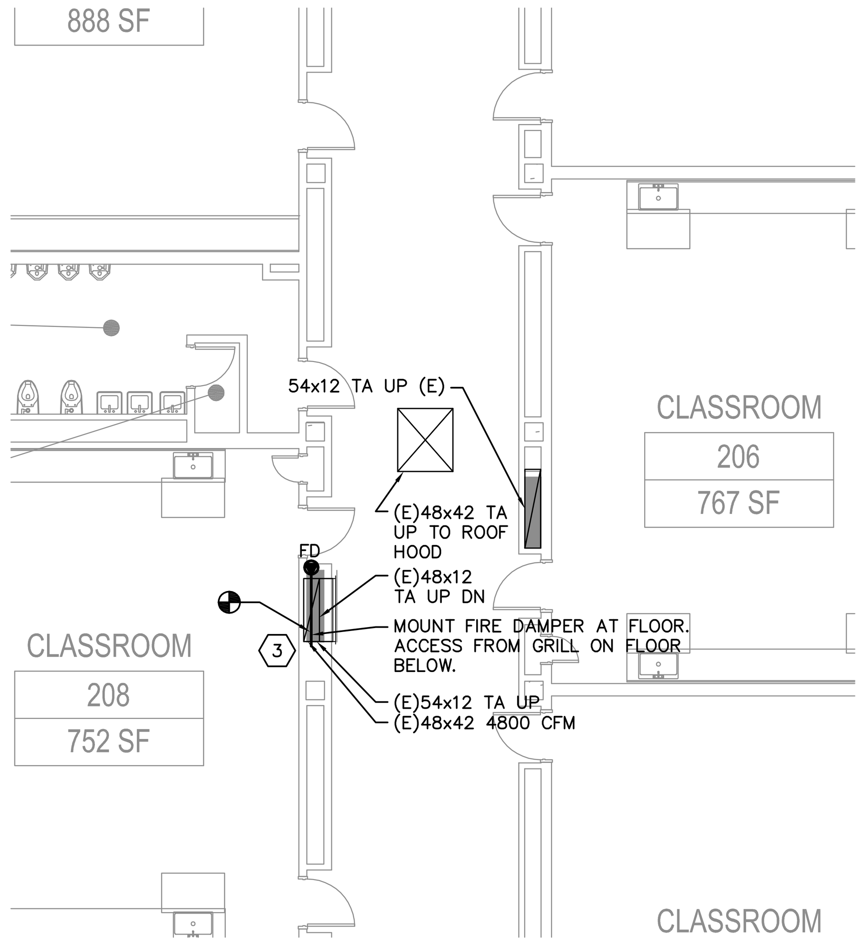
LEVEL 1 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 4
4
SCALE: 1/8" = 1'-0"



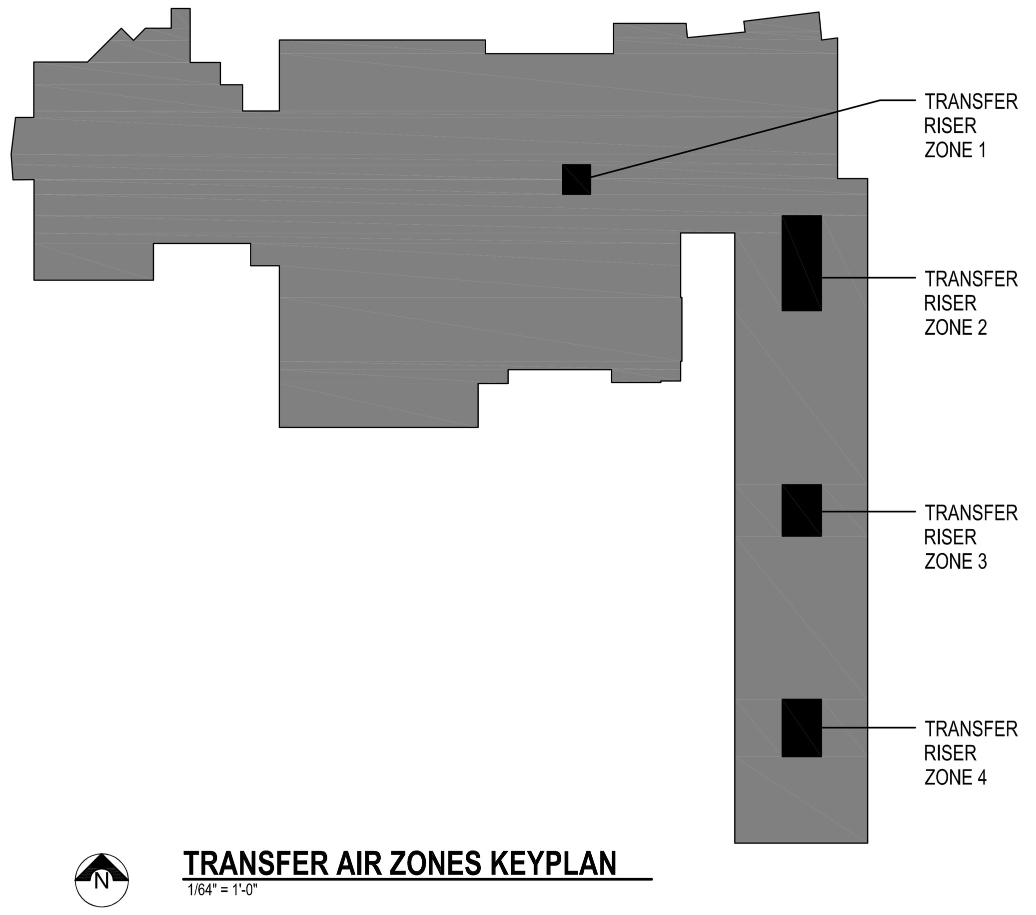
LEVEL 2 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 1
5
SCALE: 1/8" = 1'-0"



LEVEL 2 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 2
6
SCALE: 1/8" = 1'-0"



LEVEL 2 MECHANICAL PLAN
TRANSFER AIR RISER ZONE 3
7
SCALE: 1/8" = 1'-0"



TRANSFER AIR ZONES KEYPLAN
1/64" = 1'-0"

KEY NOTES ⟨X⟩

1. PROVIDE WITH UNITARY CONTROLLER WITH DATA OUTPUT CAPABILITIES THAT WILL CONTROL (4) NEW EXHAUST FANS. THE CONTROLLER SHALL BE CAPABLE OF PROGRAMMING TIME OF DAY USE SCHEDULE AND CAN MODULATE FLOWRATE AT VFD BASED ON SCHEDULE, OUTSIDE AIR TEMPERATURES, (3) STATIC PRESSURE SENSORS LOCATED: ONE ON THE 1ST AND ONE ON THE 2ND FLOOR, AND POSSESS MANUAL FLOW OVERRIDE. LOCATION OF CONTROLLER AND VFD TO BE DETERMINED IN THE FIELD BY DPS MECHANICAL STAFF.
2. DENVER PUBLIC SCHOOLS SHALL VERIFY EQUIPMENT IS IN GOOD WORKING CONDITION AND UNIT VENTILATOR OUTSIDE AIR DAMPERS ARE FULLY OPEN. INTEGRATE WITH FIRE ALARM SYSTEM ACCORDING TO INTENDED CONTROL SEQUENCE ON M190. REFER TO ELECTRICAL DRAWINGS FOR LOCATION AND QUANTITIES FOR INTEGRATION WITH FIRE ALARM SYSTEM. TYPICAL FOR ALL CLASSROOMS IN SCHOOL.
3. PROVIDE WITH ACTUATOR MOUNTED INTERNALLY OF THE COMBINATION FIRE SMOKE DAMPER.
4. PROVIDE (4) VFD'S TO PROVIDE EACH FAN WITH INDIVIDUAL SPEED CONTROL. INTEGRATE VFD CONTROLS IN WITH UNITARY CONTROLLER AS NOTED IN KEYNOTE 1 AND LOCATE IN THE SAME ROOM.

MEGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

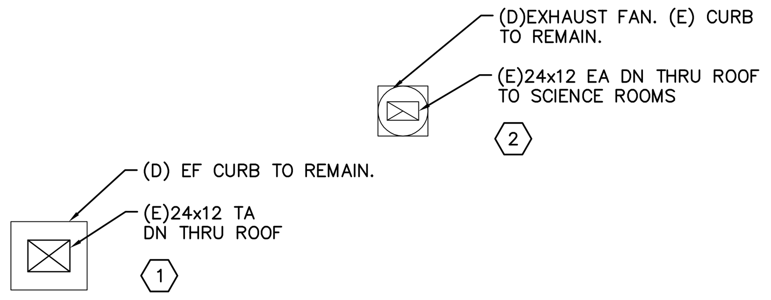
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

ENLARGED MECHANICAL PLANS - TRANSFER DUCTS

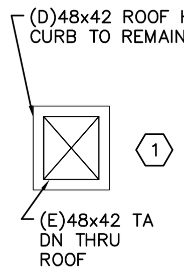
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

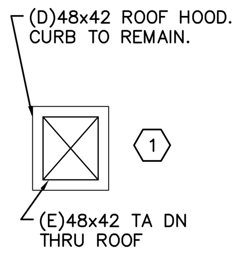
DWG NO.
M193



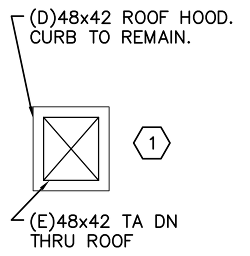
1 ROOF MECHANICAL DEMO PLAN TRANSFER AIR RISER ZONE 1
SCALE: 1/8" = 1'-0"



2 ROOF MECHANICAL DEMO PLAN TRANSFER AIR RISER ZONE 2
SCALE: 1/8" = 1'-0"



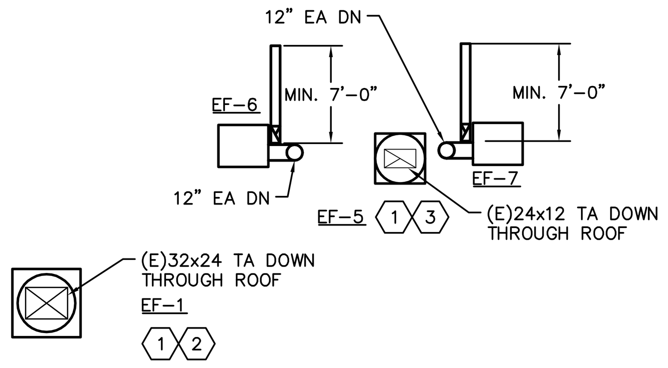
3 ROOF MECHANICAL DEMO PLAN TRANSFER AIR RISER ZONE 3
SCALE: 1/8" = 1'-0"



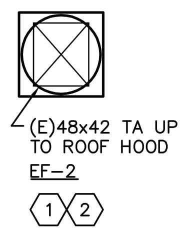
4 ROOF MECHANICAL DEMO PLAN TRANSFER AIR RISER ZONE 4
SCALE: 1/8" = 1'-0"

DEMO KEY NOTES ⟨X⟩ (THIS SHEET)

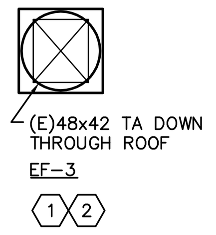
1. REMOVE EXISTING GRAVITY VENTILATION HOOD, EXISTING CURB TO REMAIN. CAP AND SEAL AT CURB FOR USE IN CONSTRUCTION PHASE.
2. REMOVE EXISTING EXHAUST FAN, EXISTING CURB TO REMAIN. CAP AND SEAL AT CURB FOR USE IN CONSTRUCTION PHASE.



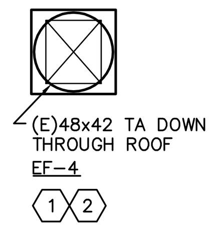
5 ROOF MECHANICAL PLAN TRANSFER AIR RISER ZONE 1
SCALE: 1/8" = 1'-0"



6 ROOF MECHANICAL PLAN TRANSFER AIR RISER ZONE 2
SCALE: 1/8" = 1'-0"



7 ROOF MECHANICAL PLAN TRANSFER AIR RISER ZONE 3
SCALE: 1/8" = 1'-0"



8 ROOF MECHANICAL PLAN TRANSFER AIR RISER ZONE 4
SCALE: 1/8" = 1'-0"

NEW WORK GENERAL NOTES (THIS SHEET)

1. INTERLOCK ALL (4) NEW EXHAUST FANS WITH FRONT END LOCATED IN CUST 213F, SEE M193 FOR LOCATION.
2. NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK IF A CONCRETE CURB AND STEEL SUPPORT BRACKET ARE NOT IDENTIFIED UPON INSPECTION OF EXISTING ROOF CURB CONDITIONS.

NEW WORK KEY NOTES ⟨X⟩ (THIS SHEET)

1. PROVIDE WITH MODIFIED ROOF CURB. CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO INSTALLATION. PROVIDE WITH STATIC PRESSURE SENSOR UPSTREAM OF EACH FAN AND INTEGRATE IN WITH SIMPLEX SYSTEM LOCATED IN CUST. 213F. SEE DETAIL 4 ON M400.
2. PROVIDE WITH OUTSIDE AIR TEMPERATURE SENSOR LOCATED ON THE NORTH SIDE OF THE BUILDING ENSURING SENSOR WILL NOT BE AFFECTED BY SOLAR GAIN AND INTEGRATE IN WITH FRONT END SYSTEM. LOCATE IN THE FIELD WITH DPS STAFF.
3. BUILDING PRESSURE DIFFERENTIAL SENSOR TO BE COORDINATED IN THE FIELD WITH DPS STAFF.

EF-1,2,3,4 POINTS LIST

POINT NUMBER	Description	Type
1	OUTSIDE AIR TEMPERATURE	ANALOG INPUT
2	BUILDING PRESSURE	ANALOG INPUT
3	1ST FLOOR BUILDING TEMPERATURE	ANALOG INPUT
4	2ND FLOOR BUILDING TEMPERATURE	ANALOG INPUT
5	BASEMENT BUILDING TEMPERATURE	ANALOG INPUT
6	FIRE ALARM	DIGITAL INPUT

INTENDED CONTROL STRATEGY FOR SUMMER USE

SCOPE OF WORK

ALL CONTROL POINTS SHALL BE ADJUSTABLE AND MONITORED REMOTELY FROM A SPECIFIED LOCATION TO BE COORDINATED WITH DPS STAFF.

EF-1,2,3,4 SHALL BE INTERLOCKED WITH THE FIRE ALARM SYSTEM.

INTERLOCK NEW EXHAUST FANS WITH FRONT END CONTROL MODULE AND VFD TO OPERATE WITH THE FOLLOWING SEQUENCE:

OCCUPIED MODE CONTROLS SEQUENCE

THE BUILDING IS CONSIDERED OCCUPIED MON-FRI 7:00AM-3:30PM AND WHEN INDIVIDUALS ARE OCCUPYING THE SPACE. THE OPERATIONS SHALL PERFORM AS FOLLOWS, WITHIN THIS TIMEFRAME:

1.1. UNIT VENTILATORS SHALL RUN DURING OCCUPIED MODE.
1.2. IF INDOOR AIR TEMPERATURE IS LOWER THAN 45°F, EF-1,2,3,4 SHALL BE TURNED OFF. UNIT VENTILATORS SHALL CONTINUE TO RUN IN NORMAL SEQUENCE OF OPERATIONS.
1.3. IF DIFFERENTIAL AIR PRESSURE IS GREATER THAN 0.05" W.C. FOR 15 MINUTES, ALL FANS SHALL BE TURNED ON AT 30% OF MAX FLOW FOR EACH FAN. IF THE DIFFERENTIAL DROPS BELOW THIS SETPOINT FOR 30 MINUTES, FANS SHALL BE TURNED OFF.
1.4. IF DIFFERENTIAL PRESSURE IS GREATER THAN 0.05" W.C. FOR 30 MINUTES ALL FANS SHALL BE TURNED ON TO RAMP UP TO 100%, INCREASING 20% EVERY 15 MINUTES, UNTIL DIFFERENTIAL PRESSURE DROPS BELOW 0.05" W.C. FOR 30 MINUTES FANS SHALL DROP BACK TO 30% OF MAX FLOW. IF THE DIFFERENTIAL PRESSURE IS BELOW 0.05" W.C. FOR 30 MINUTES THE FAN SHALL BE POWERED OFF.
1.5. PROVIDE WITH OVERRIDE ON/OFF CONTROL TO POWER FANS OFF.
1.6. PROVIDE WITH OVERRIDE FLOW TO CONTROL VOLUME OF AIRFLOW EXHAUSTED.

UNOCCUPIED CONTROL SEQUENCE

1.1 IT IS RECOMMENDED THAT THE UNIT VENTILATORS RUN FROM 4:00AM-7:00AM. THE SPECIFIC DATES SHALL BE DETERMINED BY THE CONTROLLER, BUT IT IS RECOMMENDED THAT THE VENTILATORS BE RUN BETWEEN THE DATES OF FIRST DAY OF SCHOOL-SEPTEMBER 30 AND APRIL 15-LAST DAY OF SCHOOL.
1.2 EXHAUST FANS SHALL BE RUN AT 100% FLOW FROM 4:00AM-7:00AM. THE SPECIFIC DATES SHALL BE DETERMINED BY THE CONTROLLER, BUT IT IS RECOMMENDED THAT THE VENTILATORS BE RUN BETWEEN THE DATES OF FIRST DAY OF SCHOOL-SEPTEMBER 30 AND APRIL 15-LAST DAY OF SCHOOL.

CONTROL FROM WITHIN THE CLASSROOM

1.1. FANS SHALL BE CONTROLLED BY A DESIGNATED INDIVIDUAL WITHIN EACH CLASSROOM.
1.3. THE FANS SHALL BE TURNED ON WHEN THE CLASSROOM GETS HOT, AND SHOULD REMAIN ON UNTIL THE ROOM HAS REACHED A COMFORTABLE TEMPERATURE.
1.4. IF CLASSROOMS ARE STILL HOT, OPEN A WINDOW AND ALLOW AIR TO MOVE THROUGH THE ROOM.

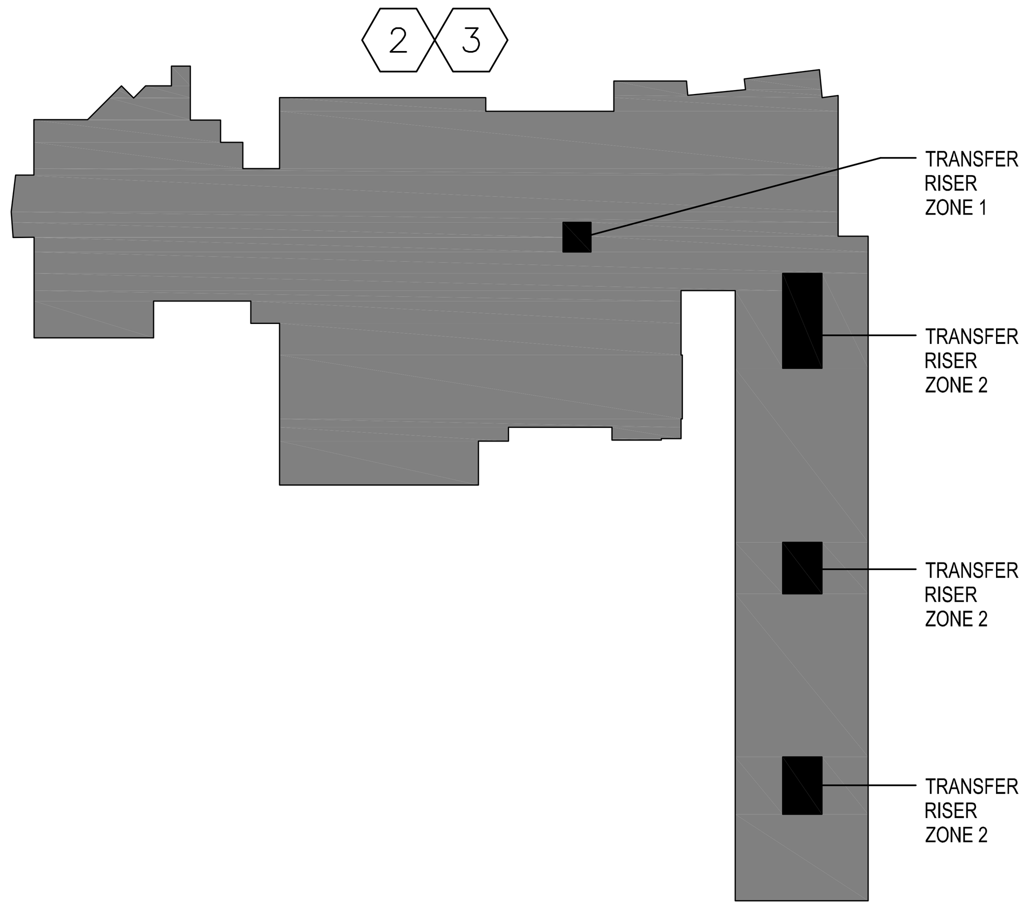
FIRE CONTROL SEQUENCE

IN THE EVENT OF A FIRE, UPDATES TO THE CURRENT MECHANICAL SYSTEM SHALL BE MADE SO THAT THE SYSTEM PERFORMS IN THE FOLLOWING MANNER:

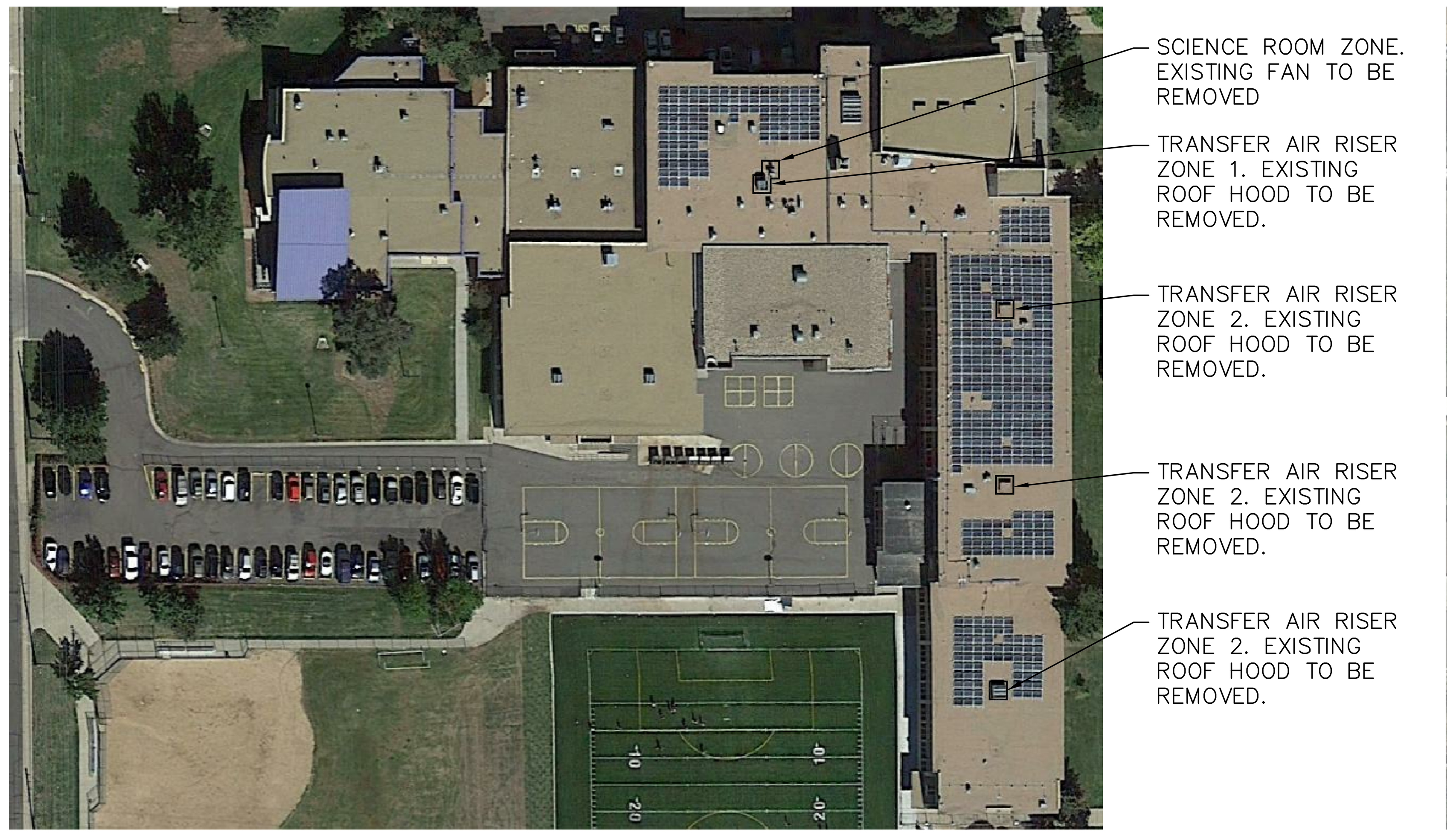
1.1. CONTROL DAMPERS WITHIN TRANSFER AIR DUCT BETWEEN CORRIDOR AND CLASSROOM SHALL BE CLOSED.
1.2. TRANSFER FAN WITHIN TRANSFER AIR DUCT BETWEEN CORRIDOR AND CLASSROOM SHALL BE POWERED OFF COMPLETELY.
1.3. UNIT VENTILATOR FOR WITHIN THE CLASSROOM SHALL BE POWERED OFF COMPLETELY.
1.4. (4) BUILDING EXHAUST FANS SHALL BE POWERED OFF COMPLETELY.

THE FOLLOWING ALARMS SHALL BE INTEGRATED INTO SYSTEM AND SHALL BE SEEN ON SCREEN AT SITE AND IN THE REMOTE CONTROL CENTER:

1.1. BUILDING TEMPERATURE FALLS BELOW 45°F ON EITHER FLOOR.
1.2. BUILDING PRESSURE FALLS BELOW (-) 0.07" W.C. FOR 30 MINUTES.
1.3. BUILDING PRESSURE EXCEEDS 0.07 30 MINUTES.



TRANSFER AIR ZONES KEYPLAN
1/64" = 1'-0"



ROOF HOOD REMOVAL KEYPLAN
NOT TO SCALE

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

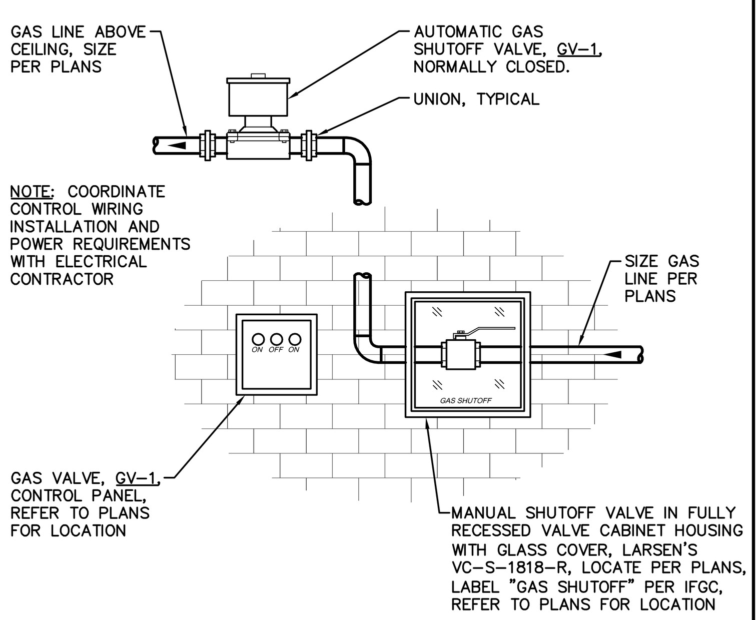
DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MEG
DRAWN BY: MEG
CHECKED BY: MEG
DATE: 04/07/17
SCALE: AS NOTED

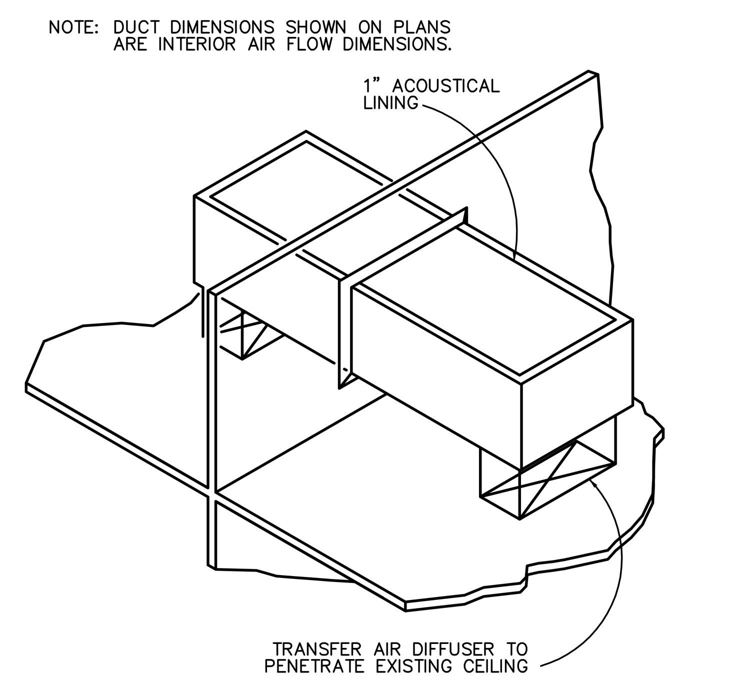
MECHANICAL ROOF DEMO AND NEW PLAN

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

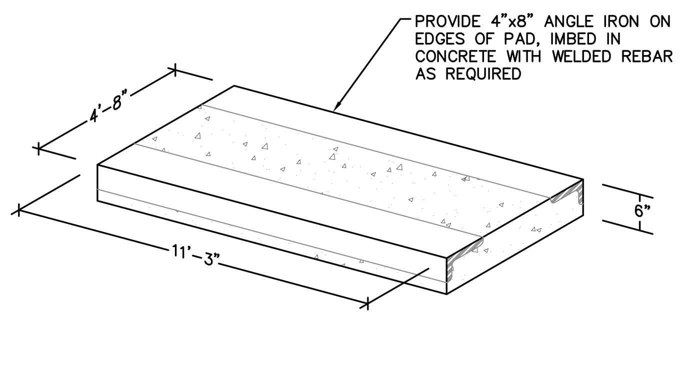
DWG NO. M194



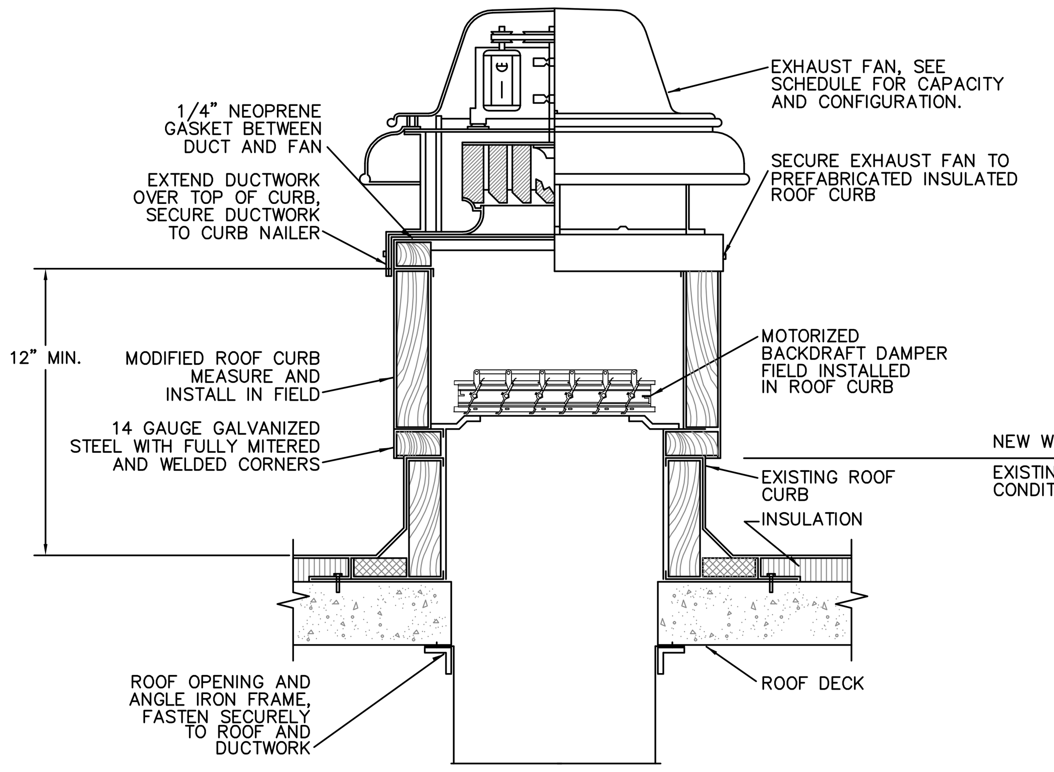
1/M400 GAS SHUTOFF DETAIL
SCALE: NONE



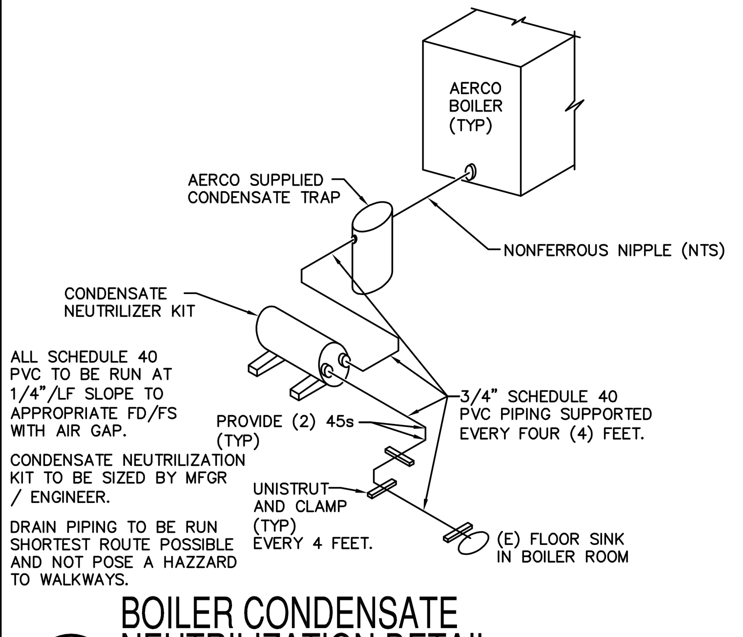
3/M400 TRANSFER DUCT DETAIL
SCALE: NONE



2/M400 BOILER HOUSEKEEPING PAD DETAIL
SCALE: NONE



3/M400 EXHAUST FAN DETAIL
SCALE:



5/M400 BOILER CONDENSATE NEUTRILIZATION DETAIL
SCALE: NONE

BOILER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	FUEL	FUEL PRESSURE (IN WC)	INPUT (MBH)	OUTPUT (MBH)	EFFICIENCY (%)	FLUID	STEAM MBH	STEAM S.F.	BOILER H.P.	WEIGHT (LBS)	FLA	VOLT/PH/HZ	NOTES
B-1	WEIL-MCLAIN	H1588	KNOCK-DOWN	NG	14	4,809	3,996	83	STEAM	3,102	12,925	119.4	9,310	8.5	208/3/60	1,2,3
B-2	WEIL-MCLAIN	H1588	KNOCK-DOWN	NG	14	4,809	3,996	83	STEAM	3,102	12,925	119.4	9,310	8.5	208/3/60	1,2,3
B-3	WEIL-MCLAIN	H1588	KNOCK-DOWN	NG	14	4,809	3,996	83	STEAM	3,102	12,925	119.4	9,310	8.5	208/3/60	1,2,3
B-4	WEIL-MCLAIN	H1588	KNOCK-DOWN	NG	14	4,809	3,996	83	STEAM	3,102	12,925	119.4	9,310	8.5	208/3/60	1,2,3

NOTES:
1. PROVIDE WITH RIELLO RS130E BURNER.
2. PROVIDE WITH FREE-STANDING BURNER CONTROL PANEL, 120/1/60.
3. PROVIDE SINGLE RIELLO BOILER WIZARD TOUCHSCREEN LEAD/LAG PANEL WITH INTERNET ACCESSIBILITY FOR ALL FOUR BOILERS.

GAS-FIRED WATER HEATER SCHEDULE

PLAN CODE	MANUFACTURER & MODEL OR EQUAL	SERVES	TYPE	GPH RECOVERY @ 100°F RISE	HEATING CAPACITY (BTUH)	RATED EFFICIENCY	CAPACITY (GAL)	FLUE SIZE	CONTROL VOLTAGE	DIMENSIONS			WEIGHT (LBS)	NOTES
										HEIGHT	WIDTH	DEPTH		
GWH-1	AERCO INN 600SV	DOMESTIC HOT WATER	CONDENSING HX	696	600,000	99%	26	(2) 6"	NOTE 3	76"	28"	51"	1,177	1,2,3,4,5,6
GWH-2	AERCO INN 600SV	DOMESTIC HOT WATER	CONDENSING HX	696	600,000	99%	26	(2) 6"	NOTE 3	76"	28"	51"	1,177	1,2,3,4,5,6

NOTES:
1. REFER TO HVAC DRAWINGS FOR FLUE AND COMBUSTION AIR ROUTING.
2. LOCATE ON 6" HOUSE KEEPING PAD.
3. 120/1/60, 20 AMP, 9 FLA.
4. ASME RATED.
5. PROVIDE WITH MANUFACTURER'S SEQUENCING VALVE FOR DOUBLE UNIT INSTALLATION.
6. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT ON FLUE, DISCHARGE VIA AIR BREAK OVER FLOOR SINK.

CONDENSATE PUMP SCHEDULE

PLAN CODE	MANUFACTURER & MODEL OR EQUAL	LOCATION	SERVES	TYPE	CFM	INCHES HG	MOTOR/ELECTRICAL					VIBRATION ISOLATION	CONTROL	WEIGHT (LBS)	NOTES
							RPM	HP	VOLTS	PHASE	FLA				
CP-1	BELL AND GOSSET 654PF-C17	MECH. ROOM	STEAM CONDENSATE	CETRIFUGAL	29.4	10	1,750	3	208	3	–	REQUIRED		–	1,2,,3,4

NOTES:
1. ODP ENCLOSURE.
2. CARBON/CERAMIC SEAL FACE FOR FLUIDS UP TO 250°F.
3. PUMP SUCTION FLANGE CONFIGURED TO MOUNT DIRECTLY TO VACUUM UNIT RECEIVER.
4. DIRECT REPLACEMENT FOR EXISTING PUMP.

PLUMBING FIXTURE & EQUIPMENT CONNECTION SCHEDULE

FIXTURE	COMPONENT	MANUFACTURER	MODEL	COLOR	DESCRIPTION	FLOW RATE (GPM/GPF)	ACCESSIBLE	WASTE	VENT	CW	HW
S-1	SINK FAUCET	ELKAY CHICAGO	LRAD1918 930-317XKCP	STAINLESS STEEL CHROME	19"x18"x6-1/2" DEEP, SINGLE COMP., SELF RIMMING, 18 GAUGE TYPE 304, 3-HOLE PUNCH. MANUALLY OPERATED DECK MOUNTED SINGLE HOLE FAUCET W/ WRISTBLADES & VACUUM BREAKER. PROVIDE GRID DRAIN, OFFSET, 17 GAUGE P-TRAP, ANGLE SUPPLIES W/L.K. STOPS, INSULATION KIT.	1.6	YES	2"	1-1/2"	1/2"	1/2"
DT-1	DILUTION TANK	ORION	OF59155-201	–	1-1/2 GALLON CAPACITY, ORION STYLE 10, LOCATED IN CASEWORK BENEATH SINK	–	–	2"	–	–	–
EEW/ES-1	EMERGENCY EYE WASH/ EMERGENCY SINK	BRADLEY	S19314BF	–	COMBINATION SHOWER AND EMERGENCY EYE WASH STATION. REVERSE DRAIN WHEN INSTALLING SO THAT DRAIN FACES TOWARD FLOOR DRAIN. BARRIER FREE WITH PULL HANDLE.	–	YES	–	–	1-1/4"	1-1/4"
GT-1	GAS TURRET	CHICAGO	980-VR909CAGCP	CHROME	DECK MOUNTED, SINGLE BALL VALVE TURRET WITH INTEGRAL CHECK AND DECK PIN.	–	–	–	–	–	–
GV-1	GAS SHUT-OFF VALVE	ASCO	108D90C	STAINLESS STEEL	FLUSH MOUNT, KEY OPERATED SWITCH, MANUAL ON/OFF SWITCHES, AC OUTPUT TO SOLENOID. PROVIDE WITH ASCO SERIES 8215 2-WAY, NORMALLY-CLOSED, SOLENOID VALVES.	–	–	–	–	–	–
TMV-3	THERMOSTATIC MIXING VALVE	BRADLEY	S19-2000	ROUGH BRASS	EMERGENCY MIXER THAT FAILS COLD. 20 GPM @ 35 PSI LOSS MAX. SET TO PROVIDE TEPID WATER, LOCATED ABOVE CEILING OR AS INDICATED WITH ACCESS FOR SERVICE.	–	–	–	–	1-1/4"	1-1/4"
FD-1	FLOOR DRAIN	JOSAM	30000-A	NICKALOY	TWO-PIECE DRAIN WITH DOUBLE FLANGE, CLAMP RING, ROUND ADJUSTABLE NICKALOY STRAINER PROVIDE WITH TRAP SEAL.	–	–	2"	–	–	–
TG-1	TRAP GUARD	SURE SEAL	SS SERIES	–	INLINE FLOOR DRAIN TRAP SEALER, NEOPRENE RUBBER DIAPHRAGM WITH TWO SOFT RUBBER SEALING GASKETS. SIZE PER DRAIN, REFER TO DRAWINGS.	–	–	2"	–	–	–
WB-1	WASHER BOX	SIOUX CHIEF	696-1	WHITE	1/4 TURN VALVES WITH HAMMER ARRESTOER, PAINT FACE PLATE TO MATCH (RE: ARCH)	–	–	2"	1-1/2"	1/2"	1/2"

GRILLE, REGISTER, & DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	NECK	MATERIAL	FRAME TYPE	COLOR	NOTES
ER-1	PRICE	PDDR	PERFORATED FACE DUCTED EXHAUST	SEE PLANS	ALUMINUM	LAY-IN	WHITE	1

NOTES:
1. PROVIDE WITH O.B.D.

FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVES	TYPE	CFM	ESP (IN WC)	MOTOR (HP)	FAN RPM	DRIVE	BACKDRAFT DAMPER	VOLT/PH/HZ	WEIGHT	NOTES
EF-1	GREENHECK	GB-240-5	TRANSFER RISER ZONE 1	DOWNBLAST CENTRIFUGAL	4,150	0.1	1/2	1725	BELT	GRAVITY	120/1/60	116	1,2,3,4,5
EF-2	GREENHECK	GB-420-10	TRANSFER RISER ZONE 2	DOWNBLAST CENTRIFUGAL	10,885	0.1	1	1725	BELT	GRAVITY	208/1/60	261	1,2,3,4,5
EF-3	GREENHECK	GB-420-10	TRANSFER RISER ZONE 3	DOWNBLAST CENTRIFUGAL	10,885	0.1	1	1725	BELT	GRAVITY	280/1/60	261	1,2,3,4,5
EF-4	GREENHECK	GB-420-10	TRANSFER RISER ZONE 4	DOWNBLAST CENTRIFUGAL	10,885	0.1	1	1725	BELT	GRAVITY	280/1/60	261	1,2,3,4,5
EF-5	GREENHECK	GB-200	SCIENCE CLASSROOMS	DOWNBLAST CENTRIFUGAL	3,750	0.2	1/2	1725	BELT	GRAVITY	120/1/60	127	1,2,3,4,5,7
EF-6	LABCONCO	7069000	SCIENCE FUME HOOD	UPBLAST CENTRIFUGAL	1,100	0.4	1/2	1725	BELT	GRAVITY	120/1/60	96	1,2,3,5,6
EF-7	LABCONCO	7069000	SCIENCE FUME HOOD	UPBLAST CENTRIFUGAL	1,100	0.4	1/2	1725	BELT	GRAVITY	120/1/60	96	1,2,3,5,6

NOTES:
1. ALL CAPACITIES ARE AT 5280 FT.
2. PROVIDE WITH MODIFIED ROOF CURB TO FIT EXISTING CURB DIMENSIONS.
3. PROVIDE WITH 24V MOTORIZED CONTROL DAMPER.
4. INTERLOCK FAN WITH TIME CLOCK.
5. PROVIDE WITH SPEED CONTROLLER. MOUNT CONTROLLER ABOVE CEILING NEAR FAN, OR NEAR WHERE FAN DUCTWORK GOES UP TO ROOF.
6. INTERLOCK INDIVIDUAL FAN WITH ASSOCIATED FUME HOOD.
7. FANS SHALL RUN CONTINUOUSLY DURING REGULARLY OCCUPIED HOURS.

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

MEGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MEG
DRAWN BY: MEG
CHECKED BY: MEG
DATE: 04/07/17
SCALE: AS NOTED

MECHANICAL SCHEDULES & DETAILS

Cuningham Group Architecture, Inc.
www.cuningham.com
601 S. Broadway, Suite N
Denver, CO 80209
Tel: 303 861 1600
Fax: 303 861 1602
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. M400

ELECTRICAL SYMBOLS

NOTE:

THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS

ONE LINE AND RISER

- PANEL XXX — PANEL
- CURRENT TRANSFORMER, RATED AS SPECIFIED OR REQUIRED
- M — MOTOR
- SPD — SURGE PROTECTION DEVICE
- GROUND CONNECTION
- 800A3P — SWITCH, RATING AS SHOWN
- 400A FRN — FUSE, FUSE AMPACITY AND TYPE AS SHOWN
- 800A3P — CIRCUIT BREAKER, RATING AS SHOWN
- M — UTILITY METER (AS REQUIRED BY UTILITY)
- SAFETY SWITCH, NON–FUSED, 240V, U.N.O.
- FUSED DISCONNECT
- COMBINATION STARTER/DISCONNECT (SIZE AS INDICATED)
- T T-XX — TRANSFORMER, TYPE AND RATING AS SHOWN
- CONDUIT CONNECTION
- G — CIRCUIT BREAKER WITH GROUND FAULT PROTECTION
- G — FUSE WITH GROUND FAULT PROTECTION
- ATS-XX — AUTOMATIC TRANSFER SWITCH
- GROUND CONNECTION WITH TEST WELL
- GROUND ROD
- POLE MOUNTED UTILITY TRANSFORMER

MISCELLANEOUS

- X — KEY NOTE DESIGNATION
- X — SHORT CIRCUIT TAG DESIGNATION
- XXXX — FEEDER TAG DESIGNATION
- X — REVISION NUMBER DESIGNATION
- NEW TO EXISTING CONNECTION
- NEW CONSTRUCTION
- EXISTING CONDITIONS
- DEMOLITION WORK

POWER

- PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER SURFACE MOUNTED
- PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER RECESS MOUNTED
- 20 AMP, 125V, NEMA 5–20R DUPLEX RECEPTACLE
- 20 AMP, 125V, NEMA 5–20R QUAD RECEPTACLE
- 20 AMP, 125V, NEMA 5–20R DUPLEX RECEPTACLE, MOUNTED 6" ABOVE COUNTER AND/OR ABOVE BACKSPLASH, UNLESS OTHERWISE NOTED
- 20 AMP, 125V, NEMA 5–20R SWITCHED DUPLEX RECEPTACLE
- 20 AMP, 125V, NEMA 5–20R QUAD RECEPTACLE, MOUNTED 6" ABOVE COUNTER AND/OR ABOVE BACKSPLASH, UNLESS OTHERWISE NOTED
- 20 AMP, 125V, NEMA 5–20R DUPLEX FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB
- 20 AMP, 125V, NEMA 5–20R QUAD FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB
- J — JUNCTION BOX, FLOOR/CEILING MOUNTED
- J — JUNCTION BOX, WALL MOUNTED
- SPECIAL RECEPTACLE, CONFIGURATION AS NOTED ON PLAN
- SPECIAL RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN
- FURNITURE FEED RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN
- M — MOTOR: HORSEPOWER AS INDICATED ON PLANS OR DIAGRAMS
- PLUGMOLD, REFER TO DRAWING FOR LENGTHS
- SAFETY SWITCH, NON–FUSED, 240V, U.N.O.
- FUSED DISCONNECT
- COMBINATION STARTER/DISCONNECT (SIZE AS INDICATED)
- COMBINATION DISCONNECT, WITH RECEPTACLE, REFER TO DRAWING FOR SIZE
- PHOTOCELL

FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANNUNCIATOR PANEL
- ACP — ACCESS CONTROL PANEL
- GACP — GAS ALARM CONTROL PANEL
- SMOKE DETECTOR, ADDRESSABLE PHOTO ELECTRIC
- L — SMOKE DETECTOR, EARLY WARNING LASER DETECTION
- FD — FLAME DETECTOR
- HD — HEAT DETECTOR
- G — GAS DETECTOR
- DUCT SMOKE DETECTOR, ADDRESSABLE PHOTO ELECTRIC
- FIRE ADA ALARM STROBE MOUNTED AT 80" AFF OR 6" BELOW CEILING WHICHEVER IS LOWER
- FIRE ADA ALARM HORN MOUNTED AT 80" AFF OR 6" BELOW CEILING WHICHEVER IS LOWER
- FIRE ALARM AUDIBLE AND ADA STROBE LIGHT MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER
- F — FIRE ALARM MANUAL PULL STATION, ADDRESSABLE DOUBLE ACTION
- MAGNETIC DOOR HOLDER
- FS — FIRE ALARM FLOW SWITCH
- TS — FIRE ALARM TAMPER SWITCH

CONDUIT DESIGNATIONS

- XX/XXX — PANEL NAME / CIRCUIT NUMBER – BRANCH CIRCUITS HOMERUN USE NUMBER 12 AWG WIRE, UNLESS OTHERWISE NOTED. ALL CIRCUITS SHALL CONTAIN A GROUND AND NEUTRAL CONDUCTOR, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL PROVIDE MULTI–WIRE CIRCUIT HANDLE TIES AS FINAL FIELD INSTALLED WIRING REQUIRES.
- CONDUIT AND WIRE CONCEALED, 3/4" UNLESS OTHERWISE NOTED, CONDUIT USED FOR SWITCH LEGS, AND CONDUIT USED FOR CONTROL WIRING
- CONDUIT AND WIRE EMBEDDED IN CONCRETE OR BELOW GRADE
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP

LIGHTING

NOTE: UPPER CASE LETTER DENOTES LUMINAIRES TYPE. LOWER CASE LETTER ADJACENT TO LUMINAIRE INDICATES SWITCH THAT CONTROLS LUMINAIRES, HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP.

- A — 2' X 4' RECESSED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 2' X 4' SURFACE FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 2' X 2' RECESSED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 2' X 2' SURFACE MOUNTED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 1' X 4' RECESSED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 1' X 4' SURFACE MOUNTED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — 1' X 4' WALL MOUNTED FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — LINEAR PENDANT FLUORESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — PENDANT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — FLUORESCENT STRIP TYPE LUMINAIRE, LENGTHS AS NOTED ON LUMINAIRE SCHEDULE
- A — SURFACE MOUNTED DOWNLIGHT, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — RECESSED MOUNTED DOWNLIGHT, MOUNTING IS NOTED LUMINAIRE SCHEDULE
- A — WALL MOUNTED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — WALL WASH LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A — RECESSED STEP LIGHT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- TRACK LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE
- A A — CEILING MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED
- A — EMERGENCY BATTERY LUMINAIRE (2 HEAD) 84" AFF, UNLESS OTHERWISE NOTED
- A — EMERGENCY BATTERY LUMINAIRE (2 HEAD) WITH MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED MOUNT AT 84" AFF, UNLESS OTHERWISE NOTED
- A A — WALL MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED
- A — SINGLE POLE MOUNTED, EXTERIOR LUMINAIRE
- A — DOUBLE POLE MOUNTED, EXTERIOR LUMINAIRE
- A — QUAD POLE MOUNTED, EXTERIOR LUMINAIRE
- A — BOLLARD LUMINAIRE
- A — CEILING FAN
- S — SINGLE POLE SWITCH; 3= THREE WAY SWITCH, 4= FOUR WAY SWITCH, K= KEY SWITCH, D= DIMMER SWITCH, T0= MOTOR RATED SWITCH, HOA= HAND–OFF–AUTOMATIC, P= PILOT LIGHT, O= OCCUPANCY SENSOR LOWERCASE LETTER INDICATES LUMINAIRES CONTROLLED
- OS — CEILING MOUNTED OCCUPANCY SENSOR
- OS — DIRECTIONAL CEILING MOUNTED OCCUPANCY SENSOR
- OS — DUAL DIRECTIONAL CEILING MOUNTED OCCUPANCY SENSOR

STANDARD MOUNTING HEIGHTS U.N.O.

ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS INDICATED ON ELECTRICAL DRAWINGS.

RECEPTACLES (CENTERLINE)	18"
RECEPTACLES IN EQUIP. RMS.	48"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	24"
ALARMS, SWITCHES AND CONTROLS (CENTERLINE)	48"
TELEPHONE (PUBLIC)	1@48" AND 1@36"
TELEPHONE OUTLETS (CENTERLINE)	18"
TELEPHONE TERMINAL BOARD (BTM.)	6"
SAFETY SWITCHES	48"
STARTERS	48"
PANELS (TOP)	72"
CLOCK OUTLETS (CENTERLINE)	90"
FIRE ALARM PULL STATIONS (HANDLE)	44"
STROBES (CENTERLINE)	80"*
FIRE ALARM BELLS (EXTERIOR)	12'–0"
CONTROLS (FIRE ALARM CONTROL PANEL)	48"
ANNUNCIATION PANELS	48"
INTERCOM (AFEA ONLY)	36"
REMOTE INDICATING LIGHT (EQUIP. RMS.)	48"
REMOTE INDICATING LIGHT (FIN. AREAS)	CEILING
EXIT SIGNS (WALL MOUNTED BTM.)	80"
TELEVISION OUTLETS	18"
INTERCOMS	48"
PHOTOCELLS	12'–0"

ABBREVIATIONS

A	AMPS, AIR (COMPRESSED)
AC	ABOVE COUNTER
AFC	ABOVE FINISHED CEILING
AFEA	AREA FOR EVACUATION ASSISTANCE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AV	FOR AUDIO VISUAL MEDIA CABINET
BFF	BELOW FINISHED FLOOR
BKR	BREAKER
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
C	CONDUIT
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CFM	CUBIC FEET PER MINUTE
CKT	CIRCUIT
CLG	CEILING
CM	COFFEE MAKER
CU	COPPER, CONDENSING UNIT
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DW	DISHWASHER
DX	DIRECT EXPANSION
(E)	EXISTING
EPO	EMERGENCY POWER OFF
ETR	EXISTING TO REMAIN
FBO	FURNISHED BY OTHERS
FF	FINISHED FLOOR
FHC	FIRE HOSE CABINET
FLA	FULL LOAD AMPS
FLR	FLOOR
FVNR	FULL VOLTAGE, NON REVERSING
GD	GARBAGE DISPOSAL
GFI	GROUND FAULT CIRCUIT INTERRUPTER (PERSONAL PROTECTION ON DEVICE)
GFP	GROUND FAULT PROTECTED FROM UPSTREAM
GFI	RECEPTACLE OR CIRCUIT BREAKER
GFR	GROUND FAULT RELAY
GND	GROUND
HOA	HAND OFF AUTOMATIC
HPS	HIGH PRESSURE SODIUM
HSTAT	HUMIDISTAT
HTG	HEATING
HTR	HEATER
IG	ISOLATED GROUND
KCMIL	1000 CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPS
KVAR	KILOVOLT AMPS REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
MATV	MASTER ANTENNA TELEVISION SYSTEM
MBH	1000 BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MG	MOTOR GENERATOR
MH	MANHOLE
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MW	MICROWAVE
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
N/O,N/C	NORMALLY OPEN, NORMALLY CLOSED
N/L	NIGHT LIGHT
OC	ON CENTER
OV	OVEN
PDU	POWER DISTRIBUTION UNIT
PH,Ø	PHASE
PIV	POST INDICATOR VALVE
PJ	MOUNTED ON CEILING FOR PROJECTOR
PNL	PANEL
PT	POTENTIAL TRANSFORMER
QTY	QUANTITY
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
REF	REFRIGERATOR
REV	REVISION
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SQUARE FEET
SPDT	SINGLE POLE, DOUBLE THROW
SPST	SINGLE POLE, SINGLE THROW
SP	STATIC PRESSURE
SWBD	SWITCHBOARD
TSTAT	THERMOSTAT
TL	TWISTLOCK
TV	TELEVISION
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDER SLAB
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VAC	VOLTS ALTERNATING CURRENT, VACUUM
VAV	VARIABLE AIR VOLUME
VM	VENDING MACHINE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WT	WATERTIGHT, WEIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

ELECTRICAL GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE ELECTRICAL DEMOLITION REQUIRED. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED. PROVIDE LABOR AND MATERIALS AS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICE TO EXISTING CIRCUITS.
3. FIELD VERIFY EXISTING EQUIPMENT OR CIRCUITS THAT ARE REMAINING TO BE RECONNECTED TO NEW OR EXISTING SWITCHBOARDS/PANELBOARDS. PROVIDE SWITCHES, RECEPTACLES, CONDUIT, WIRE, ETC. AS REQUIRED TO RESTORE CONTINUITY OF CIRCUIT(S).
4. PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, WIRE, CABLE, J–BOXES, RECEPTACLES, SWITCHES, LIGHTS, FIRE ALARM DEVICES, ETC. COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED AND BLANK COVER PLATES PROVIDED.
5. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
6. EXISTING SYSTEMS AND CONDITIONS SHOWN ON DRAWINGS FOR EXISTING BUILDINGS ARE TO BE NOTED "FOR GUIDANCE ONLY". THE ELECTRICAL CONTRACTOR TO FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND TO INCLUDE IN HIS BID AN ALLOWANCE FOR REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEM TO ALL OTHER WORK AS REQUIRED.
7. SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER–IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.
8. WHERE THE REUSE OF EXISTING CONDUITS, WIRES, DEVICES, ETC. IS PERMISSIBLE, MAKE CERTAIN THAT THE WIRING FOR SAME IS CONTINUOUS FROM OUTLET TO OUTLET AND THAT SUCH CIRCUIT OR SYSTEMS SHALL PASS THROUGH NO OUTLETS OR JUNCTION BOXES WHICH MAY BE RENDERED INACCESSIBLE BY THE CHANGES TO BE MADE TO THE BUILDING. EXISTING CONDUITS, WIRE, DEVICES, ETC. WHICH ARE NOT INDICATED FOR REUSE SHALL BECOME THE PROPERTY OF THIS CONTRACTOR ALL LIGHTING FIXTURE, PANEL FUSED SWITCHES, CIRCUIT BREAKERS, FIRE ALARM EQUIPMENT, WIRE ETC. SHALL BE OFFERED TO THE OWNER. ALL ITEMS REFUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF PROPERLY.
9. REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.
10. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
11. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.
12. PROVIDE PERMITS AND INSPECTIONS REQUIRED.
13. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
14. WIRE SHALL BE COPPER, 60 DEGREES C RATED FOR ALL CIRCUITS/FEEDERS 100 AMPS OR LESS, 75 DEGREES C RATED FOR ALL CIRCUITS/FEEDERS OVER 100 AMPS. FOR HID FIXTURES AND WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90 DEGREES C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREES C AMBIENT. CONDUCTOR AMPACITY SHALL BE DE–RATED FOR HIGHER AMBIENT INSTALLATIONS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
16. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
17. SEE MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE SERVICE TO, AND CONNECT EQUIPMENT AS REQUIRED.
18. PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.
19. CONDUITS PENETRATING THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
20. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL TIGHT FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
21. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY.

FIRE ALARM SYSTEM INSTALLATION

1. ALL MODIFICATIONS AND ADDITIONS TO FIRE ALARM SYSTEM SHALL BE DONE BY DPS APPROVED VENDOR: COLORADO FIRE & SECURITY, CONTACT JOHN MAXWELL @ 303–478–0273.
2. ELECTRICAL CONTRACTOR AND FIRE ALARM INSTALLER SHALL COORDINATE ALL ITEMS REQUIRING COORDINATION AND COMMON WORK; SUCH AS SMOKE DETECTOR INTERFACE IN SCIENCE ROOMS AND FIRE ALARM SYSTEM INTERFACE WITH SCIENCE ROOM EMERGENCY POWER OFF DEVICES. ENTIRE SCOPE OF WORK SHALL BE INCLUDED UNDER THIS CONTRACT.

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 — SCHOOL NO. 408 — SITE NO. 091 — DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

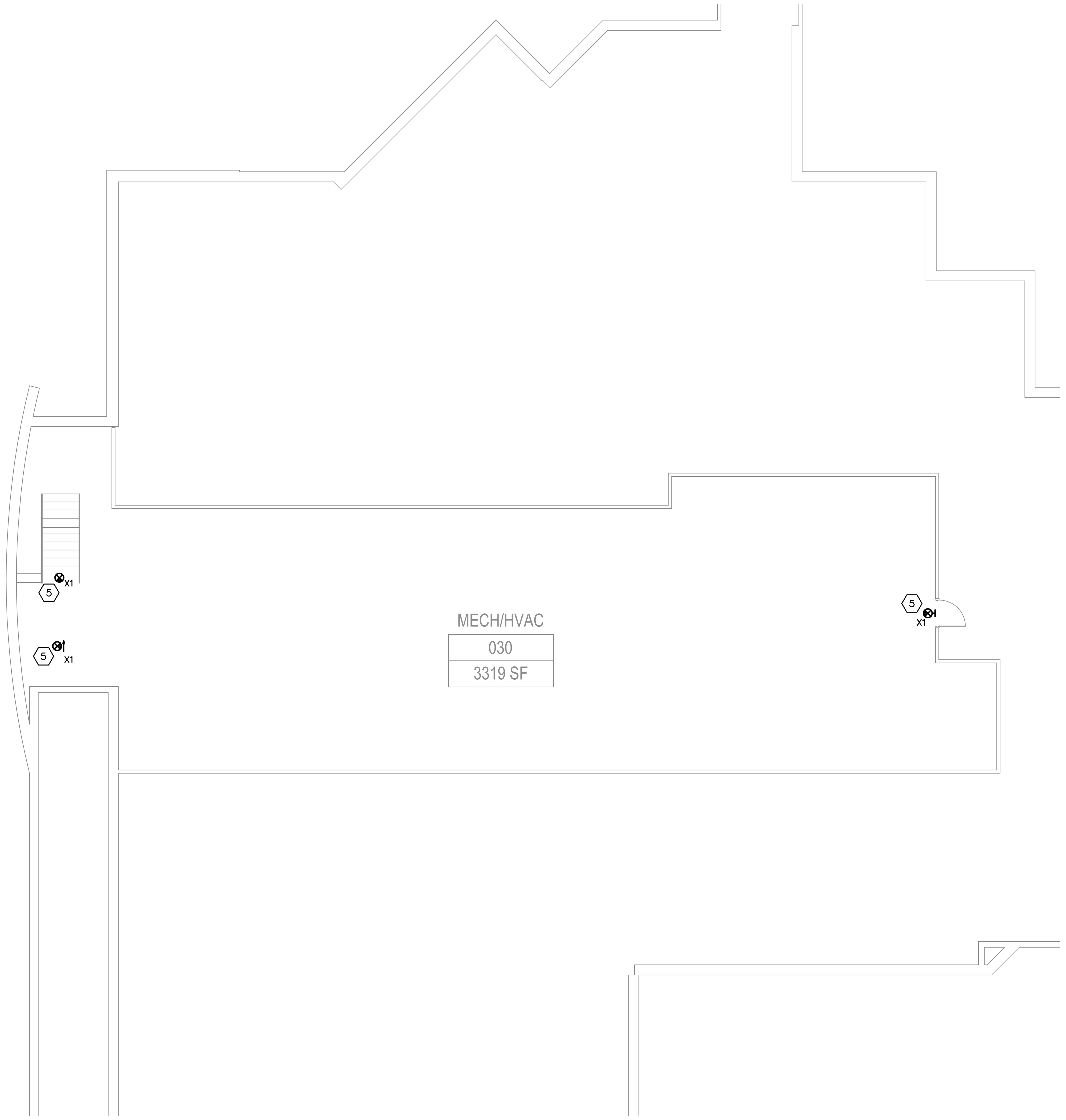
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

ELECTRICAL LEGEND AND NOTES

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

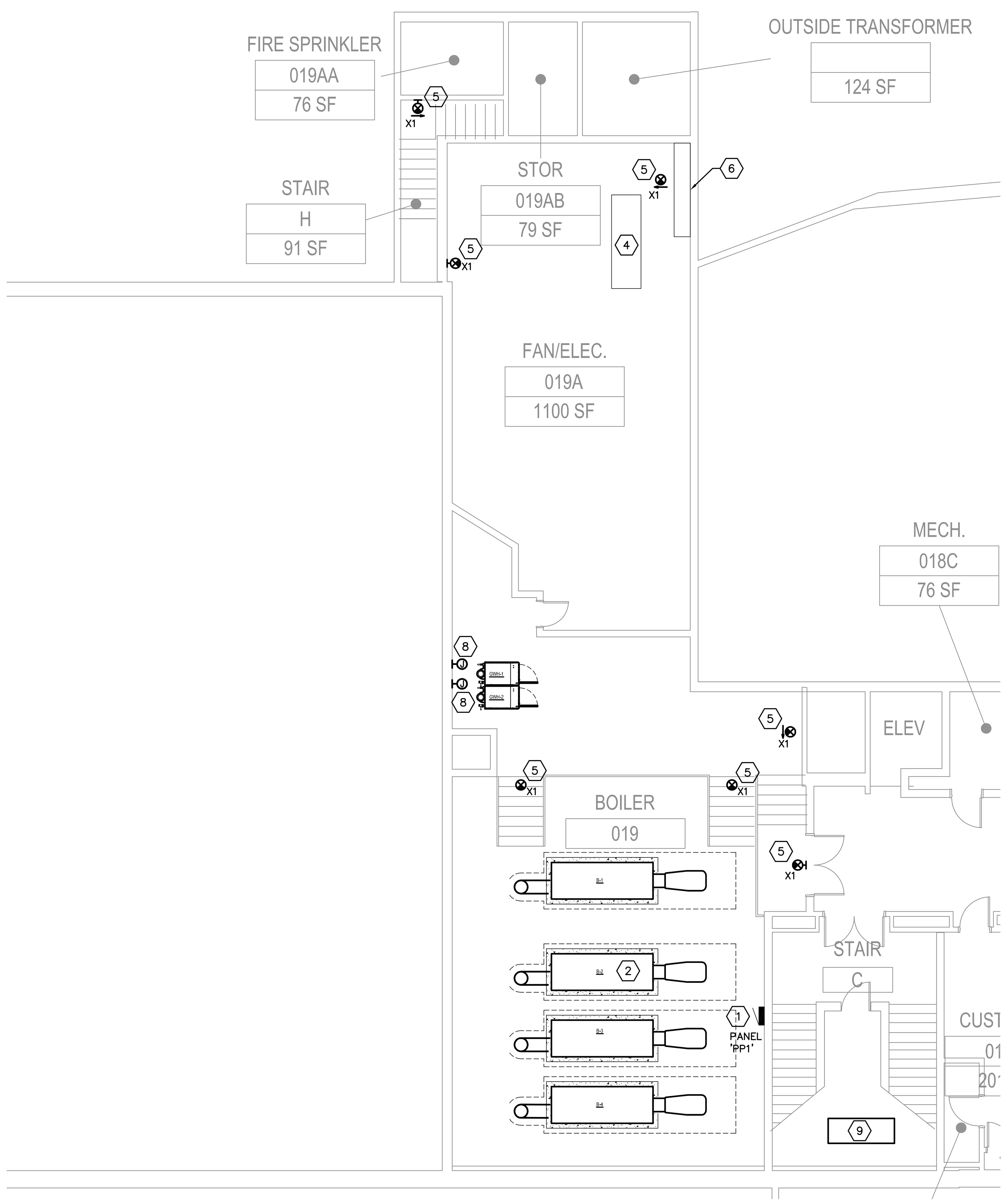
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E001



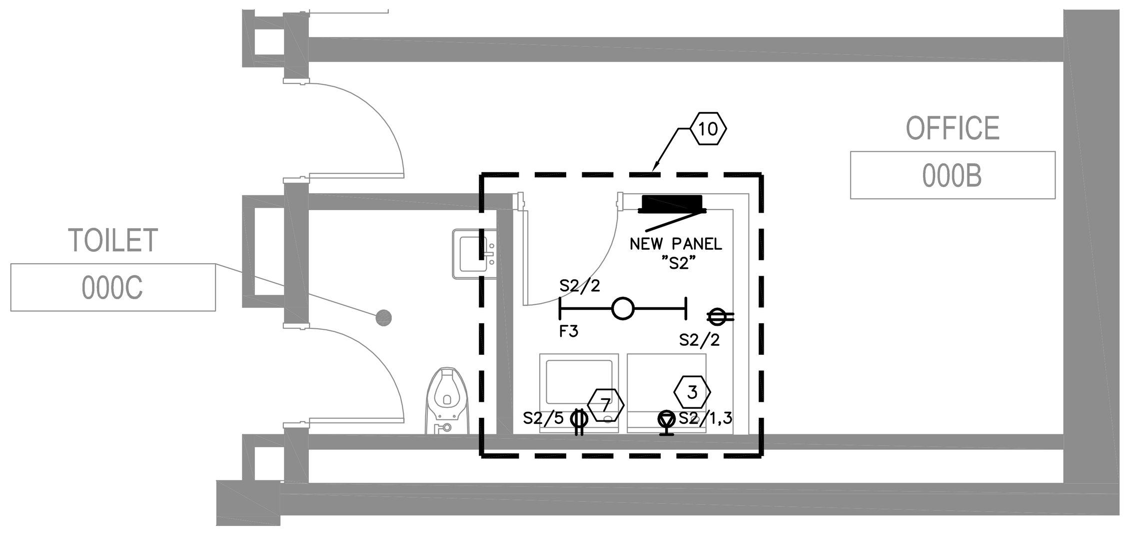
1 BASEMENT - ADDITION PARTIAL POWER PLAN

SCALE: 1/8" = 1'-0"



2 LEVEL 1 - WEST WING PARTIAL POWER PLAN

SCALE: 1/8" = 1'-0"



3 BASEMENT - ENLARGED OFFICE 000B POWER PLAN

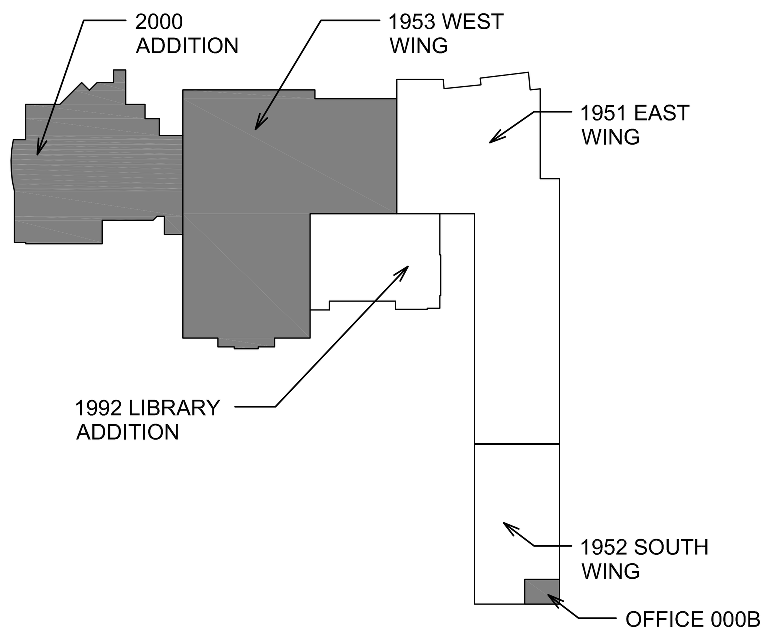
SCALE: 1/8" = 1'-0"

GENERAL NOTES (THIS SHEET)

1. EXISTING ITEMS TO REMAIN ARE INDICATED WITH THIN SOLID LINEWEIGHT AND ARE LABELED (E) UNLESS NOTED OTHERWISE.
2. NEW ITEMS TO BE PROVIDED AND INSTALLED ARE SHOWN WITH HEAVY SOLID LINEWEIGHT.

KEY NOTES ⟨X⟩ (THIS SHEET)

1. REPLACE EXISTING PANEL 'PP1' WITH NEW 100A, 120/208V, 3Ø, 4W PANELBOARD WITH A 10KAIC RATING. CONNECT FROM MAIN DISTRIBUTION BOARD USING (4 #1, 1 #8G) 1-1/2" C, CONNECT PANEL TO SAME CIRCUIT BREAKER SERVING EXISTING PANEL 'PP1'. PROVIDE PANELBOARD WITH 42 CIRCUITS. PANELBOARD SHALL POWER EXISTING LOADS AS WELL AS NEW BOILERS AND CONTROLS. REFER TO PANEL SCHEDULE ON SHEET E400.
2. PROVIDE POWER CONNECTION TO NEW BOILERS AND CONTROLS FROM NEW PANELBOARD 'PP1'. VERIFY EXACT REQUIREMENTS WITH BOILER MANUFACTURER. REFER TO PLUMBING PLANS FOR ADDITIONAL INFORMATION.
3. PROVIDE 208V 1Ø CONNECTION TO DRYER. CONNECT TO PANEL 'S2'. CONNECT USING (2 #10, 1 #10G) 3/4" C. PROVIDE 6-30R RECEPTACLE FOR CONNECTION TO DRYER. VERIFY PLUG COMPATIBILITY WITH DRYER PRIOR TO ROUGH-IN.
4. EXISTING ELECTRICAL MAIN DISTRIBUTION BOARD. REFER TO SHEET E400 FOR ADDITIONAL INFORMATION.
5. NEW EXIT SIGN. PROVIDE 'X1' TYPE EXIT SIGN. REFER TO LUMINAIRE SCHEDULE ON SHEET E191 FOR ADDITIONAL INFORMATION. CONNECT EXIT SIGN TO NEAREST AVAILABLE LIGHTING CIRCUIT AHEAD OF LOCAL SWITCHING.
6. EXISTING ELECTRICAL GEAR. EXISTING RELAY IN THIS GEAR CONTROLS ALL UNIT VENTILATORS WITHIN SCHOOL. PROVIDE A RELAY AND FIRE ALARM CONTROL MODULE FOR CONNECTION TO EXISTING UNIT VENTILATOR TIME CONTROL RELAY CIRCUIT. CONNECT NEW RELAY DOWN STREAM OF EXISTING TIME CONTROL RELAY. RELAY SHALL BE CONTROLLED BY THE FIRE ALARM SYSTEM. ALL OF THE UNIT VENTILATORS SHALL SHUT DOWN UPON ACTIVATION OF FIRE ALARM DETECTION.
7. PROVIDE 120V CONNECTION TO WASHER. CONNECT TO PANEL 'S2'. CONNECT USING (2 #12, 1 #12G) 3/4" C.
8. PROVIDE 120V CONNECTION TO WATER HEATER. CONNECT TO PANEL "PP1". WATER HEATER SHALL BE HARD WIRED. VERIFY EXACT ELECTRICAL REQUIREMENTS WITH WATER HEATER MANUFACTURER. REFER TO PLUMBING PLANS FOR ADDITIONAL INFORMATION.
9. EXISTING CONDENSATE PUMPS TO BE REPLACED WITH NEW CONDENSATE PUMPS WITH SAME ELECTRICAL REQUIREMENTS. CONTRACTOR TO CONNECT NEW PUMPS TO EXISTING ELECTRICAL SUPPLY. VERIFY POWER REQUIREMENTS OF NEW PUMPS TO ENSURE ELECTRICAL REQUIREMENTS ARE THE SAME.
10. WORK WITHIN THIS AREA SHALL BE PRICED SEPARATELY UNDER ADD ALTERNATE 1.



NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216

911 S. HAZEL CT. DENVER, CO 80219

MEGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

BASEMENT PARTIAL POWER PLAN

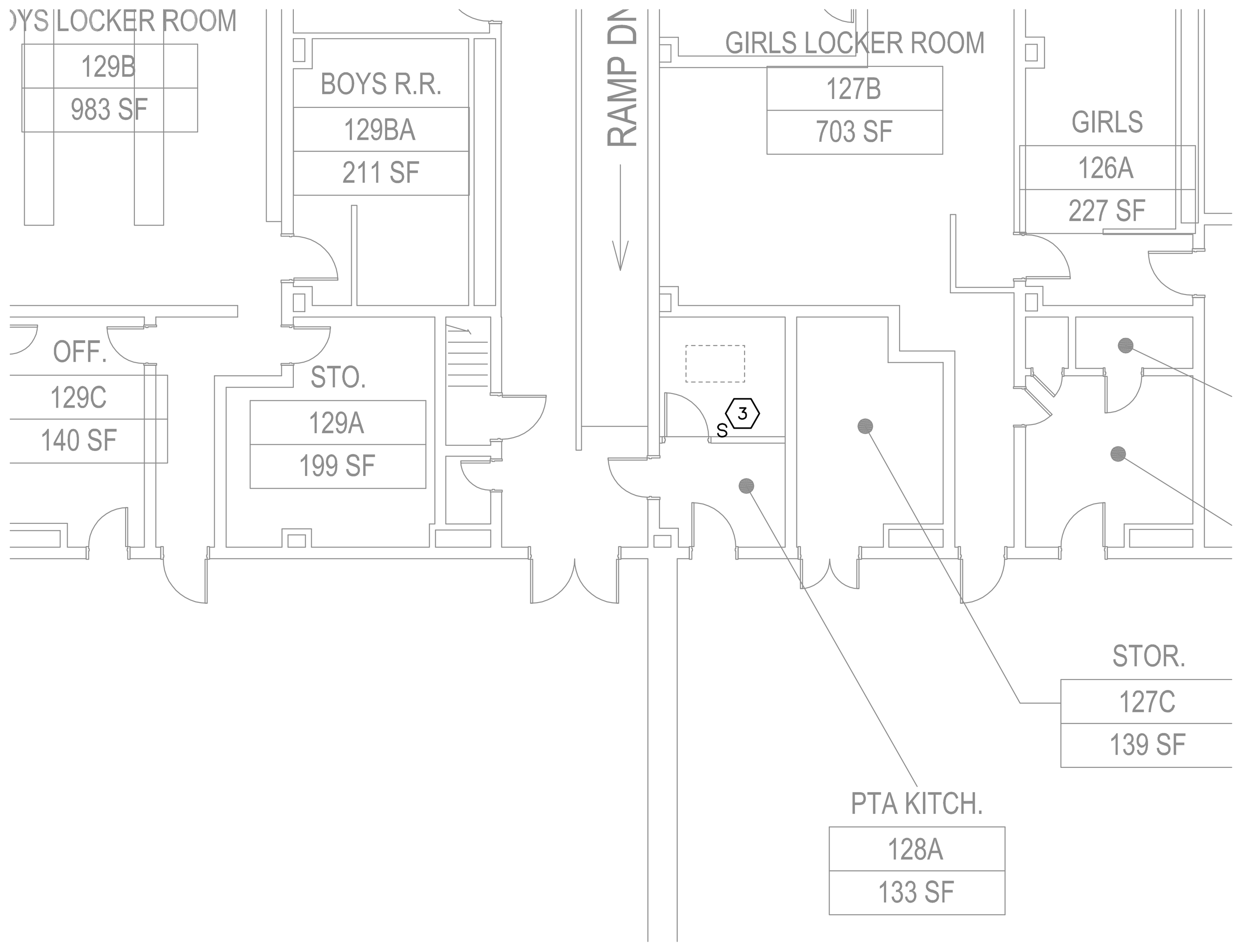
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E100

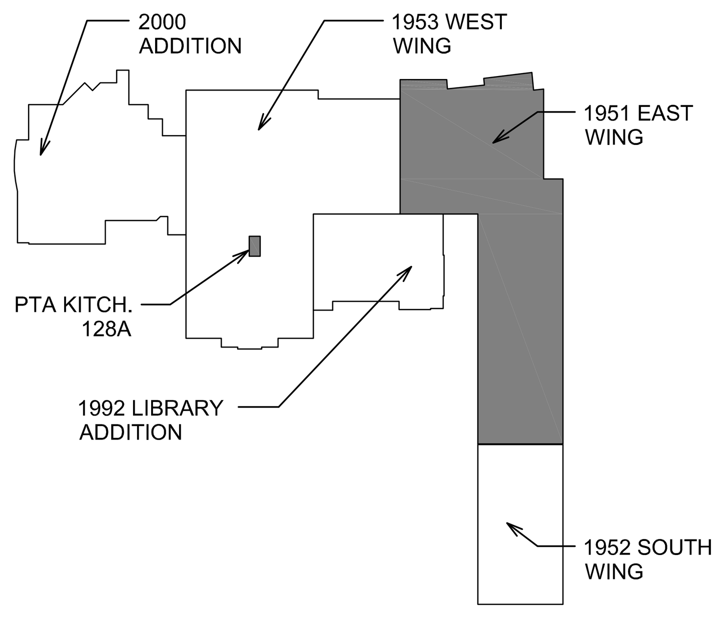
1 LEVEL 1 - EAST WING PARTIAL POWER PLAN

SCALE: 1/8" = 1'-0"



2 LEVEL 1 - WEST WING PARTIAL POWER PLAN

SCALE: 1/8" = 1'-0"



GENERAL NOTES (THIS SHEET)

1. EXISTING ITEMS TO REMAIN ARE INDICATED WITH THIN SOLID LINEWEIGHT AND ARE LABELED (E) UNLESS NOTED OTHERWISE.
2. NEW ITEMS TO BE PROVIDED AND INSTALLED ARE SHOWN WITH HEAVY SOLID LINEWEIGHT.

KEY NOTES ⟨X⟩ (THIS SHEET)

1. EXISTING EXIT SIGN TO BE REPLACED. REUSE EXISTING CIRCUITRY. PROVIDE 'X1' TYPE EXIT SIGN.
2. NEW EXIT SIGN. PROVIDE 'X1' TYPE EXIT SIGN. REFER TO LUMINAIRE SCHEDULE ON SHEET E191 FOR ADDITIONAL INFORMATION. CONNECT EXIT SIGN TO NEAREST AVAILABLE LIGHTING CIRCUIT AHEAD OF LOCAL SWITCHING.
3. ADD ALTERNATE #2: PROVIDE LIGHT SWITCH FOR CONTROL OF EXISTING LIGHT IN NEW ROOM. REFER TO ARCHITECTURAL DRAWINGS FOR WORK IN THIS AREA. RECONFIGURE LIGHTING IN PTA KITCH. 128A SO THAT EACH ROOM GETS INDIVIDUAL CONTROL OF LIGHTS WITHIN THAT ROOM.

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

ME GROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS

DEPARTMENT OF FACILITY MANAGEMENT

SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216

911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT

APPROVED CONTRACT DOCUMENT

DATE:

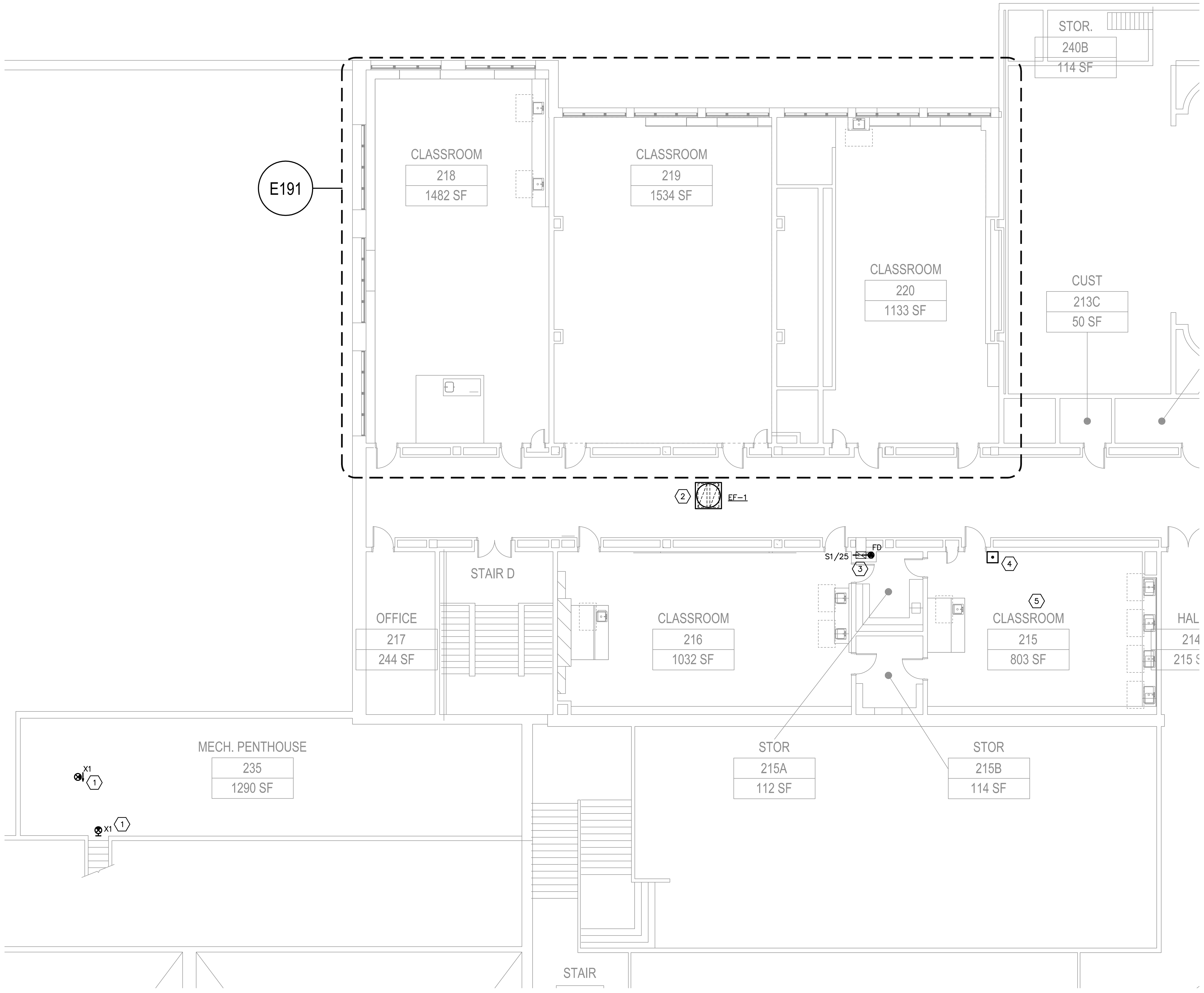
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

LEVEL 1 PARTIAL POWER PLAN

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E110



1 LEVEL 2 - WEST WING PARTIAL POWER PLAN

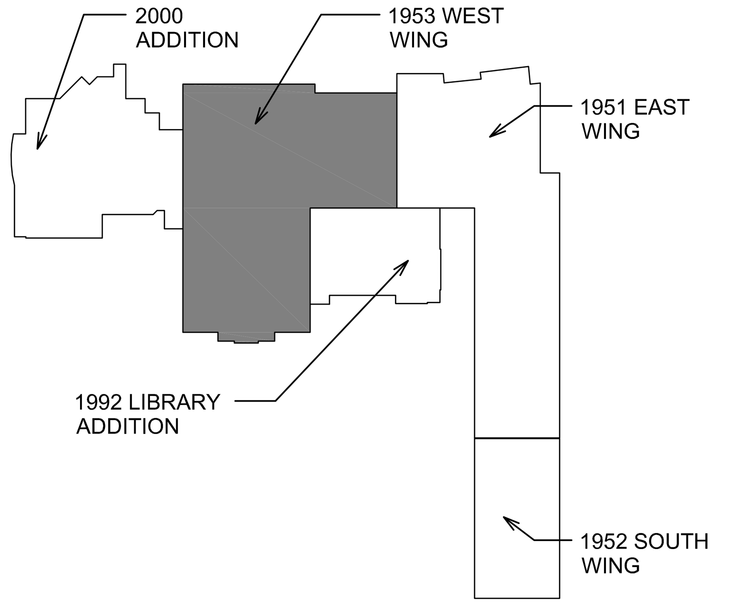
SCALE: 1/8" = 1'-0"

GENERAL NOTES
(THIS SHEET)

1. SEE SHEET E001 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. INFORMATION ON THIS SHEET WAS OBTAINED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE DRAWINGS REPRESENT INFORMATION AS ACCURATE AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BID. NOTIFY ENGINEER IMMEDIATELY IF ACTUAL FIELD CONDITIONS DIFFER FROM INFORMATION INDICATED ON THE DRAWINGS.
3. DEVICES AND EQUIPMENT SHOWN IN THIN LIGHT LINEWEIGHT AND LABELED WITH AN (E) ARE EXISTING TO REMAIN. DEVICES AND EQUIPMENT SHOWN IN THICK BOLD LINEWEIGHT ARE NEW. DEVICES WITH A HATCH PATTERN OVER THEM ARE TO BE DEMOLISHED.
4. NEW ITEMS TO BE PROVIDED AND INSTALLED ARE SHOWN WITH HEAVY SOLID LINEWEIGHT.
5. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE THEMSELVES WITH THE PROJECT AND INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH NEW WORK.
6. MAINTAIN CIRCUIT CONTINUITY TO ALL DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN. DEVICES ARE SHOWN IN THIN LINEWEIGHT.
7. COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

KEY NOTES ⟨X⟩
(THIS SHEET)

1. NEW EXIT SIGN. PROVIDE 'X1' TYPE EXIT SIGN. REFER TO LUMINAIRE SCHEDULE ON SHEET E191 FOR ADDITIONAL INFORMATION. CONNECT EXIT SIGN TO NEAREST AVAILABLE LIGHTING CIRCUIT AHEAD OF LOCAL SWITCHING.
2. PROVIDE 120V 1Ø POWER CONNECTION TO EXHAUST FAN, CONNECT TO PANEL "S1" ON LEVEL 2. PROVIDE CONNECTION TO EXISTING FIRE ALARM SYSTEM. FANS SHALL SHUT DOWN UPON ACTIVATION OF INCLUDING FIRE ALARM DETECTION. REFER TO MECHANICAL SCHEDULE ON SHEET E400 FOR CIRCUIT DESIGNATION.
3. PROVIDE 120V 1Ø POWER CONNECTION TO FIRE SMOKE DAMPER, CONNECT TO PANEL "S1" ON LEVEL 2. PROVIDE CONNECTION TO EXISTING FIRE ALARM SYSTEM. DAMPERS SHALL CLOSE UPON ACTIVATION OF FIRE ALARM DETECTION. REFER TO PANEL SCHEDULES ON SHEET E400 FOR CIRCUIT DESIGNATIONS.
4. PROVIDE EMERGENCY POWER OFF PUSH BUTTON ADJACENT TO DOOR IN SCIENCE ROOM. ALL CIRCUITS FEEDING RECEPTACLES IN SCIENCE ROOM SHALL BE ROUTED THROUGH RELAY CONTROL PANEL WITH CONTACTORS, LOCATED ABOVE CEILING. CONTACTORS SHALL BE MECHANICALLY HELD TYPE WITH 120V COIL AND SHALL BE CONNECTED TO THE EPO BUTTON, UPON ACTIVATION OF EPO BUTTON ALL CONTACTORS SHALL OPEN. PUSH BUTTON SHALL BE 1-1/2" DIAMETER RED MUSHROOM BUTTON WITH HINGED CLEAR PLASTIC COVER. LABEL SWITCH "EMERGENCY POWER OFF". IN ADDITION TO EMERGENCY POWER OFF, PROVIDE 120V POWER AND CONTROL WIRE TO EMERGENCY GAS KEYED SHUTOFF SOLENOID, CONTROL PANEL AND SHUT-OFF SWITCH. ROUTE 120V POWER TO SOLENOID THROUGH RELAY PANEL. REFER TO DETAIL 3 ON SHEET M191 FOR ADDITIONAL INFORMATION.
SEQUENCE OF OPERATION IS AS FOLLOWS:
UPON ACTIVATION OF EPO SWITCH WITHIN A SCIENCE ROOM THE RELAY PANEL SHALL DISCONNECT POWER TO ALL RECEPTACLES AND CLOSE THE GAS SOLENOID WITHIN THAT SCIENCE ROOM. PROVIDE A FIRE ALARM CONTROL MODULE TO CONTROL THE GAS SOLENOID INDEPENDENTLY OF THE EPO. UPON ACTIVATION OF SMOKE DETECTOR(S) WITHIN A SCIENCE ROOM, SCIENCE PREP ROOM OR CORRIDOR THE DETECTOR SHALL SEND A GENERAL ALARM TO THE FACP AND SHALL CLOSE THE GAS SOLENOID WITHIN THAT ROOM.
5. ALL RECEPTACLES WITH IN CLASSROOM SHALL BE REPLACED WITH GFI TYPE RECEPTACLES. CONTRACTOR SHALL PROVIDE ALL NECESSARY COVER PLATES FOR NEW RECEPTACLES.



meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

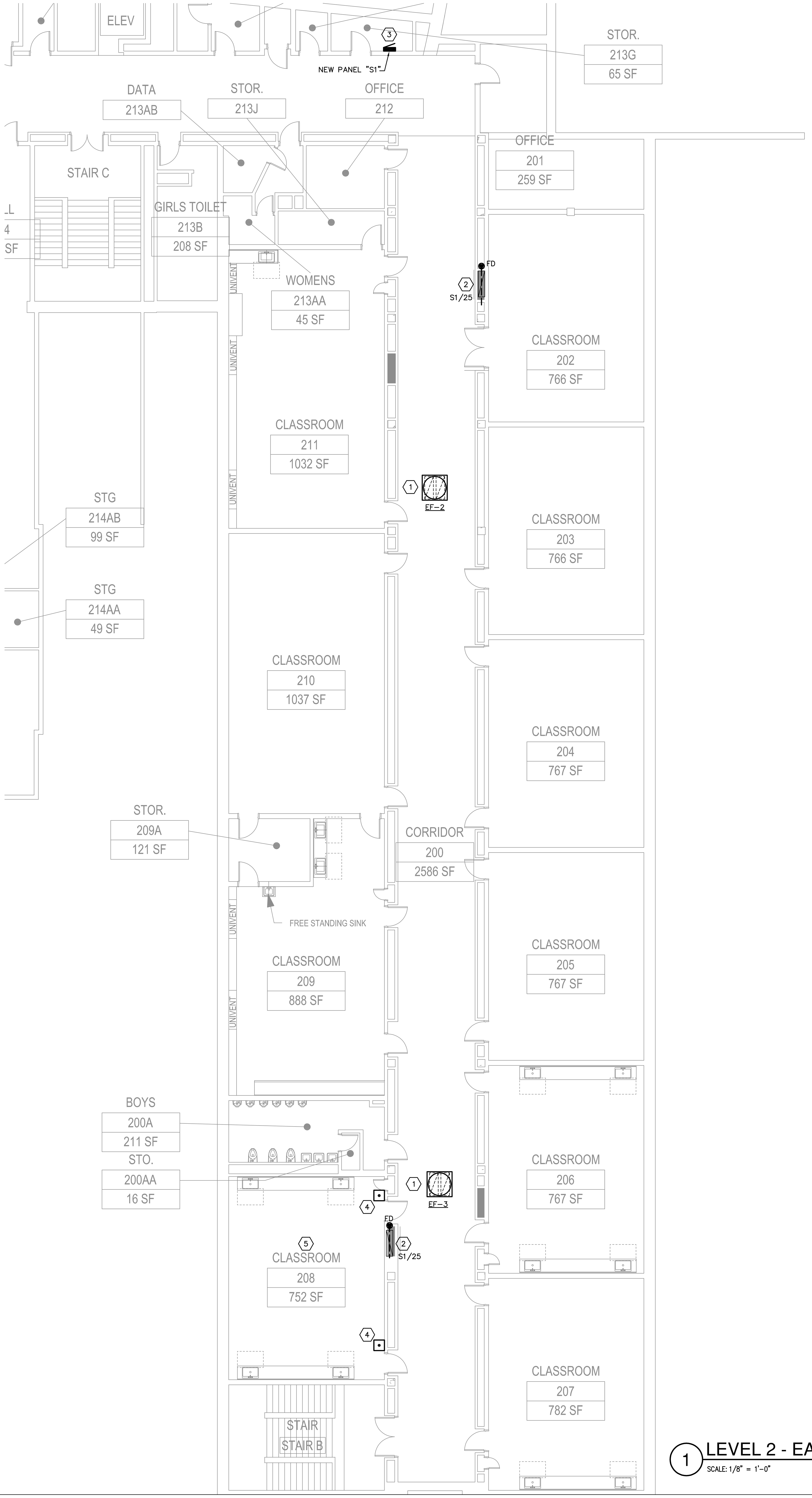
LEVEL 2 PARTIAL POWER PLAN

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

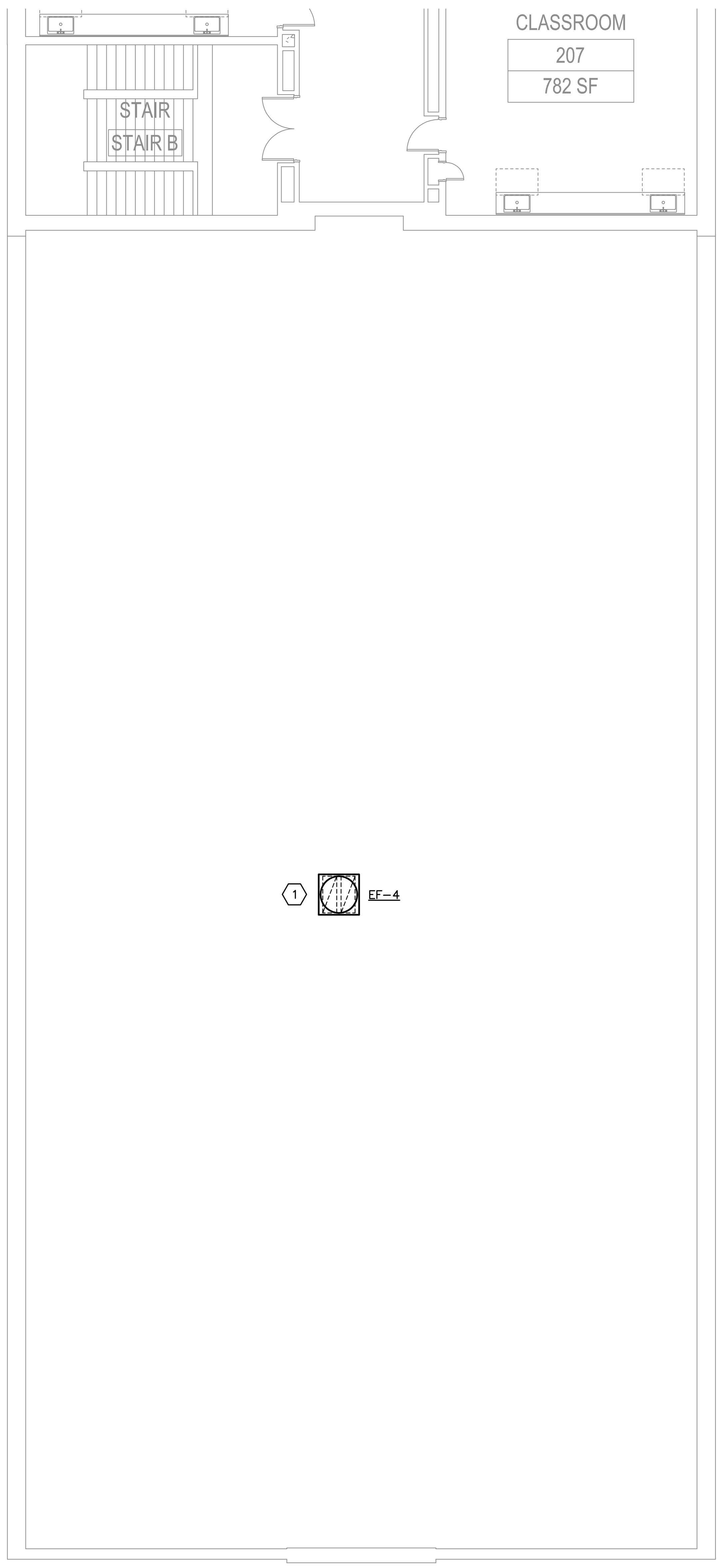
DWG NO. E120

SHEET: 20 OF: 23



1 LEVEL 2 - EAST WING PARTIAL POWER PLAN

SCALE: 1/8" = 1'-0"



2 LEVEL 2 - SOUTH WING PARTIAL POWER PLAN

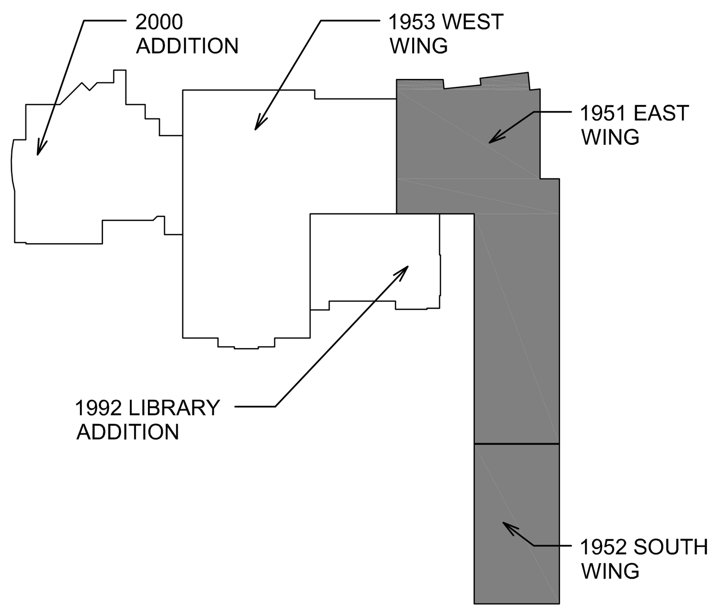
SCALE: 1/8" = 1'-0"

GENERAL NOTES
(THIS SHEET)

1. SEE SHEET E001 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. INFORMATION ON THIS SHEET WAS OBTAINED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE DRAWINGS REPRESENT INFORMATION AS ACCURATE AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BID. NOTIFY ENGINEER IMMEDIATELY IF ACTUAL FIELD CONDITIONS DIFFER FROM INFORMATION INDICATED ON THE DRAWINGS.
3. DEVICES AND EQUIPMENT SHOWN IN THIN LIGHT LINEWEIGHT AND LABELED WITH AN (E) ARE EXISTING TO REMAIN. DEVICES AND EQUIPMENT SHOWN IN THICK BOLD LINEWEIGHT ARE NEW. DEVICES WITH A HATCH PATTERN OVER THEM ARE TO BE DEMOLISHED.
4. NEW ITEMS TO BE PROVIDED AND INSTALLED ARE SHOWN WITH HEAVY SOLID LINEWEIGHT.
5. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE THEMSELVES WITH THE PROJECT AND INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH NEW WORK.
6. MAINTAIN CIRCUIT CONTINUITY TO ALL DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN. DEVICES ARE SHOWN IN THIN LINEWEIGHT.
7. COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

KEY NOTES (X)
(THIS SHEET)

1. PROVIDE 208V 1ø POWER CONNECTION TO EXHAUST FAN, CONNECT TO PANEL "S1" ON LEVEL 2. PROVIDE CONNECTION TO EXISTING FIRE ALARM SYSTEM. FANS SHALL SHUT DOWN UPON ACTIVATION OF INCLUDING FIRE ALARM DETECTION. REFER TO MECHANICAL SCHEDULE ON SHEET E400 FOR CIRCUIT DESIGNATIONS.
2. PROVIDE 120V 1ø POWER CONNECTION TO FIRE SMOKE DAMPER, CONNECT TO PANEL "S1" ON LEVEL 2. PROVIDE CONNECTION TO EXISTING FIRE ALARM SYSTEM. DAMPERS SHALL CLOSE UPON ACTIVATION OF FIRE ALARM DETECTION. REFER TO PANEL SCHEDULES ON SHEET E400 FOR CIRCUIT DESIGNATIONS.
3. PROVIDE NEW 100A, 120/208V, 3ø, 4W SURFACE MOUNTED PANELBOARD WITH 10KAIC RATING. REFER TO SHEET E400 FOR ADDITIONAL INFORMATION.. ROUTE CONDUIT AND FEEDERS IN CRAWL SPACE UNDER AUDITORIUM TO MOST SOUTH WEST CORNER OF STORAGE ROOM 020 ON BASEMENT LEVEL, CONDUIT SHOULD THEN COME UP TO LEVEL TWO TO SERVE NEW PANEL. VERIFY AND COORDINATE ROUTE WITH OWNER PRIOR TO START OF CONSTRUCTION. MAINTAIN ALL REQUIRED CLEARANCES IN FRONT OF PANELBOARD.
4. PROVIDE EMERGENCY POWER OFF PUSH BUTTON ADJACENT TO DOOR IN SCIENCE ROOM. ALL CIRCUITS FEEDING RECEPTACLES IN SCIENCE ROOM SHALL BE ROUTED THROUGH RELAY CONTROL PANEL WITH CONTACTORS, LOCATED ABOVE CEILING. CONTACTORS SHALL BE MECHANICALLY HELD TYPE WITH 120V COIL AND SHALL BE CONNECTED TO THE EPO BUTTON, UPON ACTIVATION OF EPO BUTTON ALL CONTACTORS SHALL OPEN. PUSH BUTTON SHALL BE 1-1/2" DIAMETER RED MUSHROOM BUTTON WITH HINGED CLEAR PLASTIC COVER. LABEL SWITCH "EMERGENCY POWER OFF". IN ADDITION TO EMERGENCY POWER OFF, PROVIDE 120V POWER AND CONTROL WIRE TO EMERGENCY GAS KEYED SHUTOFF SOLENOID, CONTROL PANEL AND SHUT-OFF SWITCH. ROUTE 120V POWER TO SOLENOID THROUGH RELAY PANEL. REFER TO DETAIL 3 ON SHEET M191 FOR ADDITIONAL INFORMATION.
SEQUENCE OF OPERATION IS AS FOLLOWS:
UPON ACTIVATION OF EPO SWITCH WITHIN A SCIENCE ROOM THE RELAY PANEL SHALL DISCONNECT POWER TO ALL RECEPTACLES AND CLOSE THE GAS SOLENOID WITHIN THAT SCIENCE ROOM. PROVIDE A FIRE ALARM CONTROL MODULE TO CONTROL THE GAS SOLENOID INDEPENDENTLY OF THE EPO. UPON ACTIVATION OF SMOKE DETECTOR(S) WITHIN A SCIENCE ROOM, SCIENCE PREP ROOM OR CORRIDOR THE DETECTOR SHALL SEND A GENERAL ALARM TO THE FACP AND SHALL CLOSE THE GAS SOLENOID WITHIN THAT ROOM.
5. ALL RECEPTACLES WITH IN CLASSROOM SHALL BE REPLACED WITH GFI TYPE RECEPTACLES. CONTRACTOR SHALL PROVIDE ALL NECESSARY COVER PLATES FOR NEW RECEPTACLES.



NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

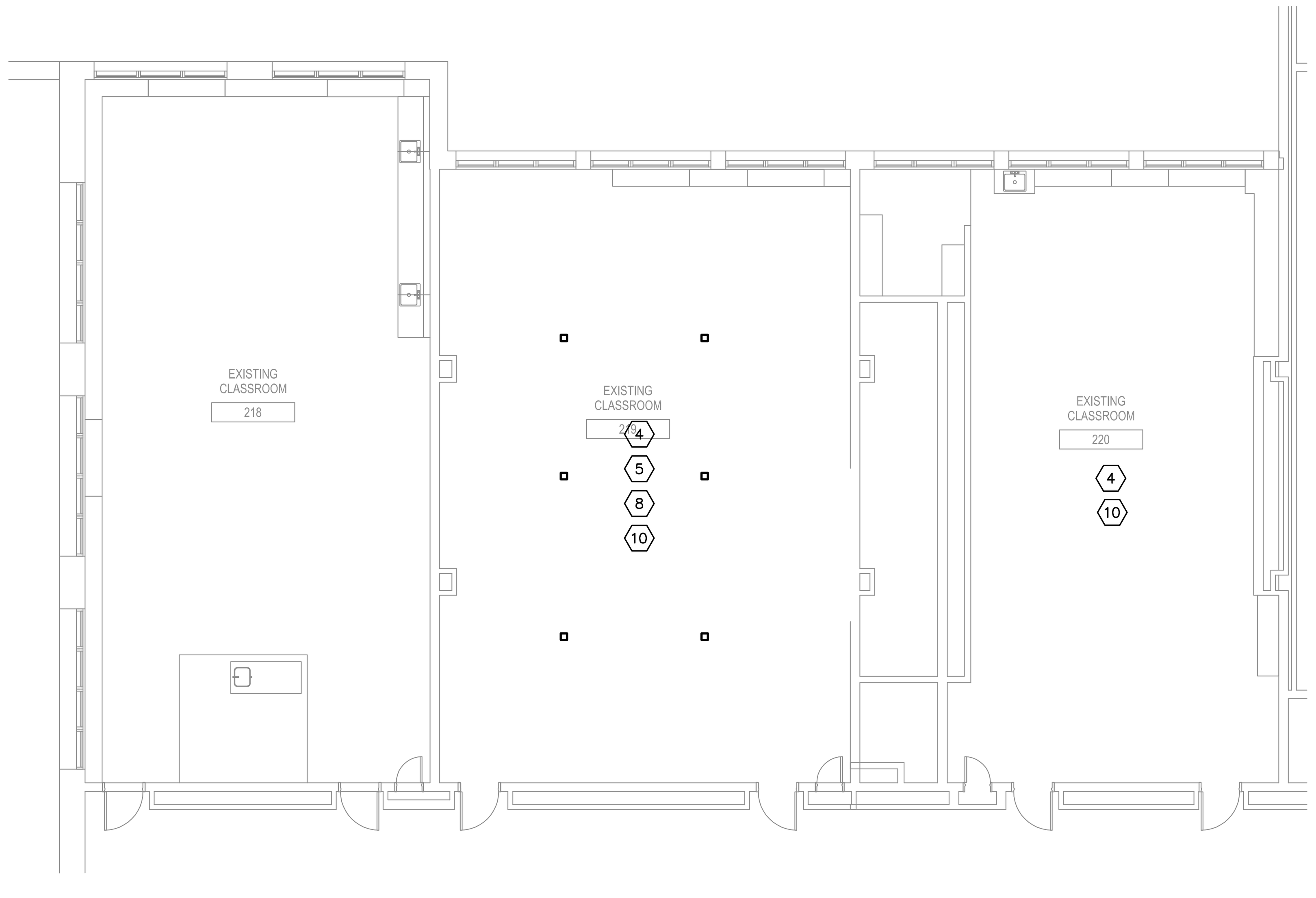
DESIGNED BY:	MEG
DRAWN BY:	MEG
CHECKED BY:	MEG
DATE:	04/07/17
SCALE:	AS NOTED

LEVEL 2 PARTIAL POWER PLAN

ME GROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

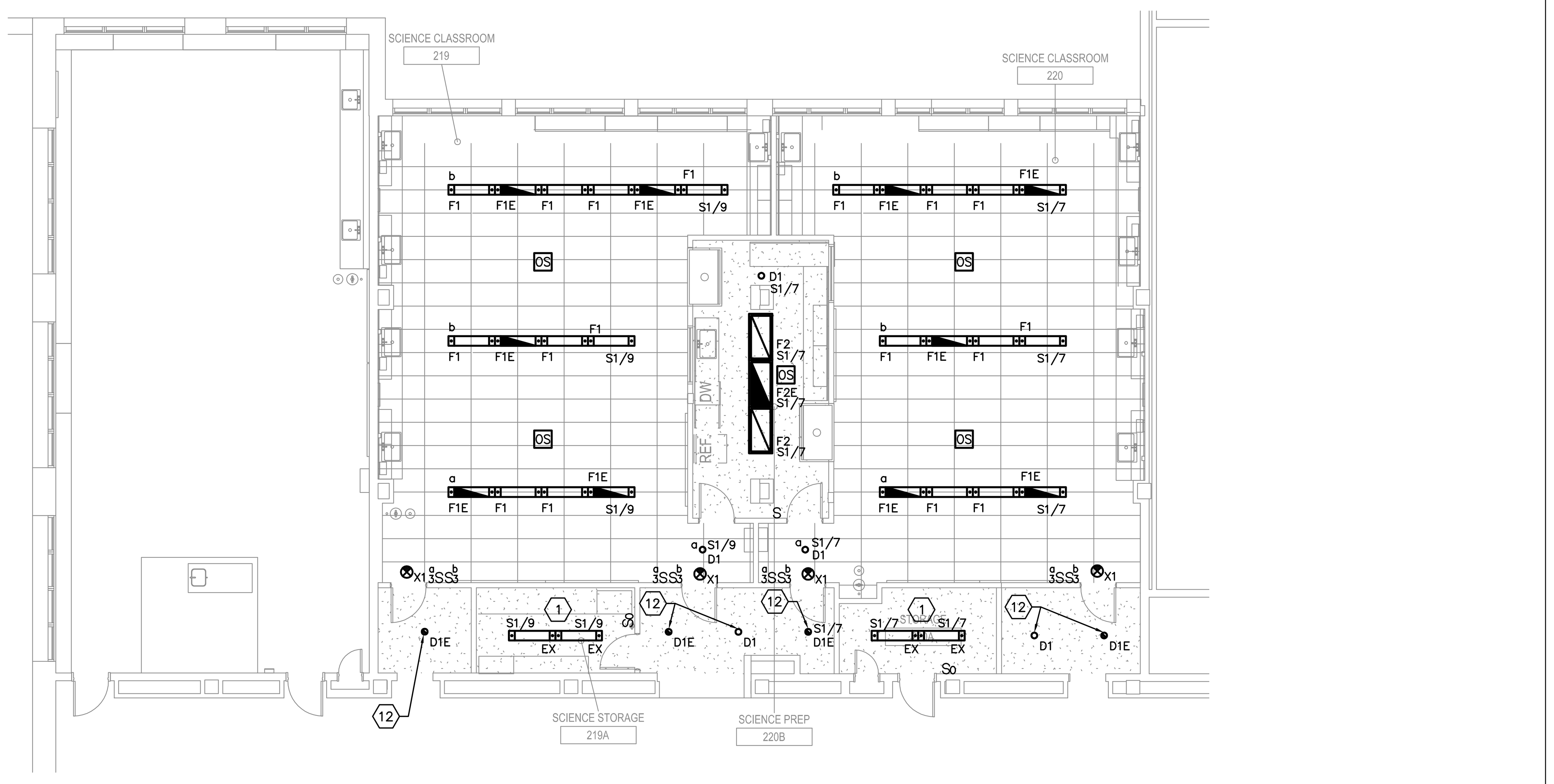
Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602
Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E121



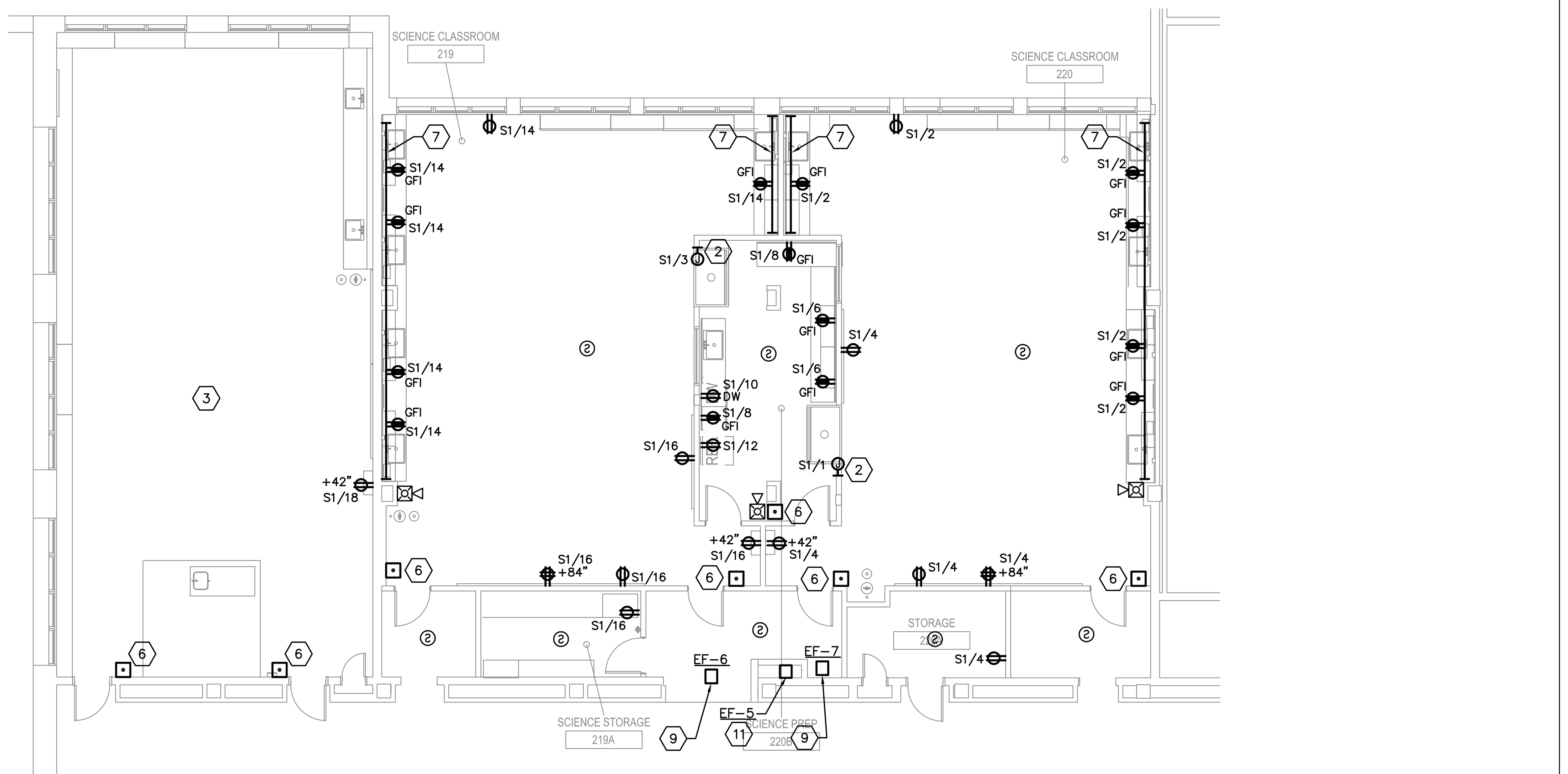
1 LEVEL 2 - ROOMS 218/219/220 - ELECTRICAL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



2 LEVEL 2 - ROOMS 219/220 - LIGHTING PLAN

SCALE: 1/8" = 1'-0"



3 LEVEL 2 - ROOMS 219/220 - POWER PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

(THIS SHEET)

1. COORDINATE SEQUENCE OF DEMOLITION WITH OWNER AND ARCHITECT PRIOR TO BEGINNING WORK.
2. PROTECT EQUIPMENT THAT IS TO BE RELOCATED FROM DAMAGE. STORE INDOORS IN A SAFE LOCATION UNTIL EQUIPMENT CAN BE RE-INSTALLED.
3. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE THEMSELVES WITH THE PROJECT AND INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH NEW WORK.
4. CONTRACTOR SHALL VERIFY QUANTITIES OF OPERATIONAL LUMINAIRES IN THE FIELD.
5. MAINTAIN CIRCUIT CONTINUITY TO ALL DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN. DEVICES ARE SHOWN IN THIN DASHED LINEWEIGHT.
6. REMOVE AND OFFER TO OWNER ALL LIGHTING AND LIGHTING CONTROLS FROM AREAS OF DEMOLITION UNLESS NOTED OTHERWISE, ALL FIXTURES REFUSED BY OWNER SHALL BE PROPERLY DISPOSED. SALVAGED LIGHTING SHALL BE STORED AND PREPARED FOR INSTALLATION IN NEW WORK.
7. REMOVE ALL ELECTRICAL DEVICES FROM WALLS SHOWN IN THICK LINEWEIGHT. REMOVE BRANCH CIRCUITING INCLUDING BACK BOXES, CONDUCTOR AND CONDUIT FROM DEVICE LOCATION TO PANELBOARD. DEVICES SHOWN IN THIN LINEWEIGHT DESIGNATED WITH AN "(E)" ARE EXISTING TO REMAIN.
8. REMOVE EXISTING SURFACE MOUNTED RECEPTACLES, AND DATA DEVICES WITHIN THE AREAS OF DEMOLITION UNLESS NOTED OTHERWISE. DEMO CONDUIT AND CONDUCTORS BACK TO NEAREST DEVICE ON CIRCUIT.
9. CIRCUIT BREAKERS MADE SPARE BY REMODEL WORK SHALL BE LABELED AS SPARE.
10. REVISE EXISTING PANEL SCHEDULES TO SHOW NEW WORK.
11. IDENTIFY EXISTING CIRCUITS SERVING AREA FOR REUSE DURING NEW WORK.
12. ALL EXIT SIGNS SHALL BE CIRCUITED TO LIGHTING CIRCUIT SERVING OTHER LUMINAIRES IN THE SAME SPACE AS THE EXIT SIGNS AHEAD OF LOCAL SWITCHING.

KEY NOTES (X)

(THIS SHEET)

1. CONTRACTOR TO RE-INSTALL TYPE "EX" LUMINAIRES THAT WERE REMOVED FROM CLASSROOM 219 DURING DEMOLITION. CONNECT TYPE "EX" LUMINAIRES TO SAME CIRCUIT PREVIOUSLY USED.
2. PROVIDE 120V CONNECTION TO FUME HOOD LIGHT AND RECEPTACLE.
3. ALL RECEPTACLES WITH IN CLASSROOM SHALL BE REPLACED WITH GFI TYPE RECEPTACLES. CONTRACTOR SHALL PROVIDE ALL NECESSARY COVER PLATES FOR NEW RECEPTACLES.
4. PERIMETER RECEPTACLES TO REMAIN. MAINTAIN CIRCUIT CONTINUITY TO ALL DEVICES THAT ARE TO REMAIN LOCATED ON THE PERIMETER OF THE EXTERIOR WALLS.
5. EXISTING POWER POLES TO BE DEMOLISHED. DEMO CONDUIT, BACK BOXES AND CONDUCTORS BACK TO NEAREST DEVICE ON CIRCUIT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION.
6. PROVIDE MOMENTARY NORMALLY CLOSED EMERGENCY POWER OFF PUSH BUTTON ADJACENT TO DOOR IN SCIENCE ROOM. ALL CIRCUITS FEEDING RECEPTACLES IN SCIENCE ROOM SHALL BE ROUTED THROUGH RELAY CONTROL PANEL WITH CONTACTORS, LOCATED ABOVE CEILING. CONTACTORS SHALL BE MECHANICALLY HELD TYPE WITH 120V COIL AND SHALL BE CONNECTED TO THE EPO BUTTON, UPON ACTIVATION OF EPO BUTTON ALL CONTACTORS SHALL OPEN. PUSH BUTTON SHALL BE 1-1/2" DIAMETER RED MUSHROOM BUTTON WITH HINGED CLEAR PLASTIC COVER. LABEL SWITCH "EMERGENCY POWER OFF". IN ADDITION TO EMERGENCY POWER OFF, PROVIDE 120V POWER AND CONTROL WIRE TO EMERGENCY GAS KEYED SHUTOFF SOLENOID AND CONTROL PANEL. ROUTE 120V POWER TO SOLENOID THROUGH CONTROL PANEL. REFER TO DETAIL 3 ON SHEET M191 FOR ADDITIONAL INFORMATION.
   SEQUENCE OF OPERATION IS AS FOLLOWS:
   UPON ACTIVATION OF EPO SWITCH WITHIN A SCIENCE ROOM THE RELAY PANEL SHALL DISCONNECT POWER TO ALL RECEPTACLES AND CLOSE THE GAS SOLENOID WITHIN THAT SCIENCE ROOM. PROVIDE A FIRE ALARM CONTROL MODULE TO CONTROL THE GAS SOLENOID INDEPENDENTLY OF THE EPO. UPON ACTIVATION OF SMOKE DETECTOR(S) WITHIN A SCIENCE ROOM OR CORRIDOR THE DETECTOR SHALL SEND A GENERAL ALARM TO THE FACP AND SHALL CLOSE THE GAS SOLENOID WITHIN THAT ROOM.

KEY NOTES (X)

(THIS SHEET)

7. TYPICAL ALL COUNTERS IN SCIENCE ROOMS: PROVIDE TWO SECTION RIGID STEEL SURFACE MOUNTED RACEWAY 6" ABOVE COUNTER WITH RECEPTACLES AS INDICATED IN PLAN. COORDINATE COMMUNICATIONS DEVICES AND CABLE REQUIREMENTS WITH COMMUNICATIONS PLANS. RACEWAY SHALL BE WIREMOLD #DS4000 SERIES. COORDINATE FINISH SELECTION WITH ARCHITECT. VERIFY EXACT MOUNTING HEIGHT WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
8. REMOVE AND REUSE EXISTING LUMINAIRES. LUMINAIRES TO BE REUSED IN STORAGE ROOMS. REFER TO LIGHTING PLAN THIS SHEET FOR NEW LOCATION OF LUMINAIRES TYPE "EX".
9. PROVIDE 120V CONNECTION TO EXHAUST FAN. LOCATED ON THE ROOF.
10. EXISTING TELECOM CABLING DEMOLISHED FROM EXISTING POWER POLES SHALL BE BUNDLED AND PROPERLY SUPPORTED FROM STRUCTURE ABOVE NEW CEILING GRID.
11. EXISTING EXHAUST FAN LOCATED ON ROOF TO BE REPLACED WITH NEW EF-6. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. REUSE EXISTING ELECTRICAL CONNECTION TO POWER NEW EXHAUST FAN.
12. CONNECT LUMINAIRE TO EXISTING NEARBY CORRIDOR LIGHTING CIRCUIT.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER OR APPROVED EQUIVALENT	CATALOG SERIES NUMBER OR APPROVED EQUIVALENT	LAMPS (QTY) TYPE	INPUT WATTS	MINIMUM LUMINAIRE EFFICIENCY	VOLTAGE	MOUNTING R	MOUNTING S	MOUNTING P	MOUNTING W	NOTES
D1	6" DIA. RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, CLEAR ALZAK LOW IRIDESCENCE, SELF FLANGED REFLECTOR.	COOPER PRESCOLITE LITHONIA	C6-142-EDR32-6151-LI-HB26 LF6CFH132EB-6CFH1 AF1-32TRT-6AR-MVOLT-OSPS	(1) 32W TRIPLE TUBE, 82 CRI, 4100K	35	55%	120	X				
D1E	6" DIA. RECESSED FLUORESCENT DOWNLIGHT WITH HORIZONTAL LAMP, CLEAR ALZAK LOW IRIDESCENCE, SELF FLANGED REFLECTOR. WITH EM BATTERY.	COOPER PRESCOLITE LITHONIA	C6-142-EDR32-EM-6151-LI-HB26 LF6CFH132EB-EM-6CFH1 AF1-32TRT-6AR-MVOLT-OSPS-EL	(1) 32W TRIPLE TUBE, 82 CRI, 4100K	35	55%	120	X				3
F1	PENDANT MOUNTED LINEAR FLUORESCENT 33% DIRECT / 67% INDIRECT LUMINAIRE WITH COLD-ROLLED STEEL HOUSINGAND ALUMINUM END CAPS, INJECTION MOLDED ACRYLIC BAFFLE , AIRCRAFT CABLE, STRAIGHT CORD, AND 90% EFFICIENCY MINIMUM.	PEERLESS	SPM4-2-32-WHR-(REFER TO FLOOR PLAN)-120-GEB10-SCT-LP841-F1-24-CO32	(2) 28W T8 4100 DEG. KELVIN	56		120			X		4,5
F1E	PENDANT MOUNTED LINEAR FLUORESCENT 33% DIRECT / 67% INDIRECT LUMINAIRE WITH COLD-ROLLED STEEL HOUSINGAND ALUMINUM END CAPS, INJECTION MOLDED ACRYLIC BAFFLE , AIRCRAFT CABLE, STRAIGHT CORD, AND 90% EFFICIENCY MINIMUM. WITH EM BATTERY.	PEERLESS	SPM4-2-32-WHR-(REFER TO FLOOR PLAN)-120-GEB10-1SE-EL-SCT-LP841-F1-24-CO32	(2) 28W T8 4100 DEG. KELVIN	56		120			X		2,4,5
F2	2X4 FLUORESCENT LUMINAIRE WITH TWO FLUORESCENT LAMPS AND ACRYLIC LENS.	LITHONIA	2SP-F-2-32-A19-MVOLT-GEB10PS-EL14	(2) 28W T8 4100 DEG. KELVIN	56		120	X				
F2E	2X4 FLUORESCENT LUMINAIRE WITH TWO FLUORESCENT LAMPS AND ACRYLIC LENS. WITH EM BATTERY.	LITHONIA	2SP-F-2-32-A19-MVOLT-GEB10PS	(2) 28W T8 4100 DEG. KELVIN	56		120	X				2
F3	4' LONG OPEN STRIP LIGHT	COOPER LITHONIA	SNF-232-UNV-EBT1 Z-2-32-MVOLT-GEB10PS	(2) 28W T8 4100 DEG. KELVIN	56	90%	120		X			
EX	PENDANT MOUNTED LINEAR FLUORESCENT SALVAGEED DURING DEMOLITION OF EXISTING COMPUTER LAB	N/A	N/A	(2) 28W T8 4100 DEG. KELVIN	56		120			X		5
X1	SINGLE FACE DIE CAST ALUMINUM EXIT SIGN WITH GREEN LED LETTERS ON WHITE HOUSING, UNIVERSAL MOUNTING, AND EM BATTERY BAKUP WITH SELF DIAGNOSTICS. MOUNT AS SHOWN ON PLANS.	COOPER LITHONIA EXITRONIX EELP	CX7-1-SD LE-S-W-1-G-120/277-EL-N-SD G400U-WB-WW-G2 CA-1-G-W-W-EM-SD	GREEN LED UNIT	4		120		X			1

GENERAL NOTES:
1. TYPICAL LUMINAIRE TYPE DESIGNATIONS SHALL BE "F" FOR FLUORESCENT, "H" FOR HID, "K" FOR INCANDESCENT, "L" FOR LED, "S" FOR SITE, AND "X" FOR EMERGENCY EXIT OR EMERGENCY LIGHT.
2. FLUORESCENT BALLASTS SHALL BE ELECTRONIC PROGRAM START UNLESS OTHERWISE NOTED. LAMPS SHALL BE MATCHED TO BALLAST FOR COORDINATED SYSTEM.
3. VERIFY TRIM COMPATIBILITY WITH CEILING TYPE PRIOR TO SUBMITTALS.
4. COORDINATE WALL MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS.
5. COORDINATE PENDANT LENGTHS WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS.
6. MOUNTING TYPE DESIGNATIONS SHALL BE "R" FOR RECESSED, "S" FOR SURFACE, "P" FOR PENDANT, AND "W" FOR WALL MOUNTED FIXTURES.

SCHEDULED NOTES:
1. PROVIDE WITH 90 MINUTE BATTERY BACKUP, INTEGRAL SELF DIAGNOSTICS, ARROWS AS SHOWN ON PLANS AND MOUNTING TYPE AS SHOWN ON PLAN.
2. PROVIDE WITH TWO LAMP, 1400 LUMEN, 90 MINUTE BATTERY BACKUP, BODINE LP600 OR EQUIVALENT.
3. PROVIDE WITH BATTERY BACKUP.
4. PROVIDE IN LENGTHS SHOWN ON PLANS WITH JOINERS AND END CAPS AS REQUIRED. USE MINIMUM NUMBER OF SECTIONS NECESSARY FOR LENGTH SHOWN. WHERE EM FIXTURES ARE SHOWN IN PART OF A FIXTURE PROVIDE SEPARATE POWER FEED FOR THE EM SECTION(S)
5. ADJUST LENGTH OF AIRCRAFT CABLE IN FIELD TO SET BOTTOM OF FIXTURE 8'-0" A.F.F.

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL

PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MEG
DRAWN BY: MEG
CHECKED BY: MEG
DATE: 04/07/17
SCALE: AS NOTED

ENLARGED ELECTRICAL SCIENCE ROOM PLANS

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E191

SHORT CIRCUIT SCHEDULE

PROJECT NAME: KEPNER SCHOOL | PROJECT NO: 871.002 | BY: PMP

	DESCRIPTION	LENGTH/ PRIMARY VOLTAGE	VOLTAGE/ SECONDARY VOLTAGE	WIRE SIZE/ XFRMR KVA RATING	WIRE MATERIAL/ TRANSFORMER (C OR A) T=XFRMR	CONDUIT (S OR N)	VOLTAGE CLASS (V)	WIRES (S OR T)	C OR Z VALUE	# OF PARALLEL RUNS	Isc AVAILABLE UPSTREAM	f	M	I(sc Fault)	
X0	UTILIY COMPANY													58,900	X0
X1	MSB	–	–	–	–	–	–	–			54,892	–	–	54,892	X1
X2	PANEL S1	120	208	1	C	S	600	S	7292	1	54,892	7.5221	0.1173	6,441	X2
X3	PANEL S2	500	208	1X	C	S	600	S	8924	1	54,892	25.6104	0.0376	2,063	X3

NEW PANELBOARD "S1"

PROJECT:	KEPNER MIDDLE SCHOOL	VOLTAGE L-L (V):	208
JOB NO.:	871.002	VOLTAGE L-N (V):	120
LOCATION:	2ND LEVEL STORAGE 213G	TYPE:	4-WIRE
MINIMUM BUS CAPACITY (A):	100	SHORT CIRCUIT RATING (A):	10,000
MAIN O.C. DEVICE (A):	100	MOUNTING:	SURFACE
DESIGN CAPACITY (A):	100	COMMENTS:	

DEVICE AMPS	POLE	LIGHTING (VA)	RCPT (VA)	MOTOR (VA)	OTHER E/A/C/S (VA)	DESCRIPTION	CKT NO.	PHASE	CKT NO.	DESCRIPTION	OTHER E/A/C/S (VA)	MOTOR (VA)	RCPT (VA)	LIGHTING (VA)	POLE	DEVICE AMPS
20	1	100	180			FUME HOOD LIGHTS/RECEPT	1	A	2	SCIENCE RM 220 RECEPT			1080		1	20
20	1	100	180			FUME HOOD LIGHTS/RECEPT	3	B	4	SCIENCE RM 220 RECEPT			1080		1	20
20	1			500		EF-6	5	C	6	SCIENCE PREP RM 220B RECEPT			360		1	20
20	1	1050				SCIENCE RM 220 LIGHTING	7	A	8	SCIENCE PREP RM 220B RECEPT			360		1	20
20	1	1136				SCIENCE RM 219 LIGHTING	9	B	10	SCIENCE PREP RM DISH WASHER	A 1200				1	20
20	1			1176		EF-1	11	C	12	SCIENCE PREP RM FRIDGE	A 500				1	20
20	1			857		EF-2	13	A	14	SCIENCE RM 219 RECEPT			1080		1	20
20	1			857		---	15	B	16	SCIENCE RM 219 RECEPT			1080		1	20
20	1			857		EF-3	17	C	18	CLASSROOM 218 RECEPT			180		1	20
20	1			857		---	19	A	20	SPARE					1	20
20	1			857		EF-4	21	B	22	SPARE					1	20
20	1			857		---	23	C	24	SPARE					1	20
20	1				E 250	FIRE SMOKE DAMPERS LEVEL 2	25	A	26	SPARE					1	20
20	1			500		EF-7	27	B	28	SPARE					1	20
20	1					SPARE	29	C	30	SPARE					1	20
20	1					SPARE	31	A	32	SPARE					1	20
20	1					SPARE	33	B	34	SPARE					1	20
20	1					SPARE	35	C	36	SPARE					1	20
20	1					SPARE	37	A	38	SPARE					1	20
20	1					SPARE	39	B	40	SPARE					1	20
20	1					SPARE	41	C	42	SPARE					1	20

CONNECTED VA PHASE A:	5,814	DEMANDED VA PHASE A:	6,102
CONNECTED VA PHASE B:	6,990	DEMANDED VA PHASE B:	7,299
CONNECTED VA PHASE C:	4,430	DEMANDED VA PHASE C:	4,724

	CONNECTED	D.F.	DEMAND	
LIGHTING LOAD:	2386	1.25	2983	DEMAND LOAD (A) = 50
RECEPTACLE (FIRST 10 KVA)	5580	1.00	5580	SPARE CAPACITY (A) = 50
RECEPTACLE (REMAINDER)	0	0.50	0	SPARE CAPACITY (%) = 50%
LARGEST MOTOR:	1176	1.25	1470	
REMAINING MOTORS:	6142	1.00	6142	PHASE BALANCE
APPLIANCES:	1700	1.00	1700	A TO B 84%
EQUIPMENT:	250	1.00	250	B TO C 65%
CONTINUOUS:	0	1.25	0	C TO A 77%
TOTAL:	17234		18125	
LOAD (AMPS):	47.8		50.3	

ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS
E = EQUIPMENT S = SUB FEED PANEL
C = CONTINUOUS A = APPLIANCE

NOTES:

NEW PANELBOARD "S2"

PROJECT:	KEPNER MIDDLE SCHOOL	VOLTAGE L-L (V):	208
JOB NO.:	871.002	VOLTAGE L-N (V):	120
LOCATION:	BASEMENT LEVEL OFFICE 000B	TYPE:	4-WIRE
MINIMUM BUS CAPACITY (A):	60	SHORT CIRCUIT RATING (A):	10,000
MAIN O.C. DEVICE (A):	60	MOUNTING:	RECESSED
DESIGN CAPACITY (A):	60	COMMENTS:	

DEVICE AMPS	POLE	LIGHTING (VA)	RCPT (VA)	MOTOR (VA)	OTHER E/A/C/S (VA)	DESCRIPTION	CKT NO.	PHASE	CKT NO.	DESCRIPTION	OTHER E/A/C/S (VA)	MOTOR (VA)	RCPT (VA)	LIGHTING (VA)	POLE	DEVICE AMPS
30	2				A 2000	DRYER	1	A	2	OFFICE 000B RECEPT/LIGHTING			180	56	1	20
–	–				A 2000	---	3	B	4	SPARE					1	20
20	1				A 800	WASHER	5	C	6	SPARE					1	20
20	1					SPARE	7	A	8	SPARE					1	20
20	1					SPARE	9	B	10	SPARE					1	20
20	1					SPARE	11	C	12	SPARE					1	20

CONNECTED VA PHASE A:	2,236	DEMANDED VA PHASE A:	2,250
CONNECTED VA PHASE B:	2,000	DEMANDED VA PHASE B:	2,000
CONNECTED VA PHASE C:	800	DEMANDED VA PHASE C:	800

	CONNECTED	D.F.	DEMAND	
LIGHTING LOAD:	56	1.25	70	DEMAND LOAD (A) = 14
RECEPTACLE (FIRST 10 KVA)	180	1.00	180	SPARE CAPACITY (A) = 46
RECEPTACLE (REMAINDER)	0	0.50	0	SPARE CAPACITY (%) = 77%
LARGEST MOTOR:	0	1.25	0	
REMAINING MOTORS:	0	1.00	0	PHASE BALANCE
APPLIANCES:	4800	1.00	4800	A TO B 89%
EQUIPMENT:	0	1.00	0	B TO C 40%
CONTINUOUS:	0	1.25	0	C TO A 36%
TOTAL:	5036		5050	
LOAD (AMPS):	14.0		14.0	

ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS
E = EQUIPMENT S = SUB FEED PANEL
C = CONTINUOUS A = APPLIANCE

NOTES:

NEW PANELBOARD "PP1"

PROJECT:	KEPNER MIDDLE SCHOOL	VOLTAGE L-L (V):	208
JOB NO.:	871.002	VOLTAGE L-N (V):	120
LOCATION:	BOILER ROOM	TYPE:	4-WIRE
MINIMUM BUS CAPACITY (A):	100	SHORT CIRCUIT RATING (A):	10,000
MAIN O.C. DEVICE (A):	100	MOUNTING:	SURFACE
DESIGN CAPACITY (A):	100	COMMENTS:	

DEVICE AMPS	POLE	LIGHTING (VA)	RCPT (VA)	MOTOR (VA)	OTHER E/A/C/S (VA)	DESCRIPTION	CKT NO.	PHASE	CKT NO.	DESCRIPTION	OTHER E/A/C/S (VA)	MOTOR (VA)	RCPT (VA)	LIGHTING (VA)	POLE	DEVICE AMPS
20	3				E 1166	B-1	1	A	2	EXISTING LOAD (NOTE 1)	E 1200				1	20
–	–				E 1166	---	3	B	4	EXISTING LOAD (NOTE 1)	E 1200				1	20
–	–				E 1166	---	5	C	6	EXISTING LOAD (NOTE 1)	E 1200				1	20
20	3				E 1166	B-2	7	A	8	EXISTING LOAD (NOTE 1)	E 1200				1	20
–	–				E 1166	---	9	B	10	EXISTING LOAD (NOTE 1)	E 1200				1	20
–	–				E 1166	---	11	C	12	EXISTING LOAD (NOTE 1)	E 1200				1	20
20	3				E 1166	B-3	13	A	14	EXISTING LOAD (NOTE 1)	E 2500				2	40
–	–				E 1166	---	15	B	16	EXISTING LOAD (NOTE 1)	E 2500				–	–
–	–				E 1166	---	17	C	18	SPARE					1	20
20	3				E 1166	B-4	19	A	20	SPARE					1	20
–	–				E 1166	---	21	B	22	SPARE					1	20
–	–				E 1166	---	23	C	24	SPARE					1	20
20	1				E 1080	GWH-1	25	A	26	SPARE					1	20
20	1				E 1080	GWH-2	27	B	28	SPARE					1	20
20	1					SPARE	29	C	30	SPARE					1	20
20	1					SPARE	31	A	32	SPARE					1	20
–	–					SPACE	33	B	34	SPACE					–	–
–	–					SPACE	35	C	36	SPACE					–	–
–	–					SPACE	37	A	38	SPACE					–	–
–	–					SPACE	39	B	40	SPACE					–	–
–	–					SPACE	41	C	42	SPACE					–	–

CONNECTED VA PHASE A:	10,644	DEMANDED VA PHASE A:	10,644
CONNECTED VA PHASE B:	10,644	DEMANDED VA PHASE B:	10,644
CONNECTED VA PHASE C:	7,064	DEMANDED VA PHASE C:	7,064

	CONNECTED	D.F.	DEMAND	
LIGHTING LOAD:	0	1.25	0	DEMAND LOAD (A) = 79
RECEPTACLE (FIRST 10 KVA)	0	1.00	0	SPARE CAPACITY (A) = 21
RECEPTACLE (REMAINDER)	0	0.50	0	SPARE CAPACITY (%) = 21%
LARGEST MOTOR:	0	1.25	0	
REMAINING MOTORS:	0	1.00	0	PHASE BALANCE
APPLIANCES:	0	1.00	0	A TO B 100%
EQUIPMENT:	28352	1.00	28352	B TO C 66%
CONTINUOUS:	0	1.25	0	C TO A 66%
TOTAL:	28352		28352	
LOAD (AMPS):	78.7		78.7	

ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS
E = EQUIPMENT S = SUB FEED PANEL
C = CONTINUOUS A = APPLIANCE

NOTES:
1. RECONNECT EXISTING LOAD TO NEW PANEL.

GENERAL NOTES (THIS SHEET)

1. SEE SHEET E001 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. INFORMATION ON THIS SHEET WAS OBTAINED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE DRAWINGS REPRESENT INFORMATION AS ACCURATE AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BID. NOTIFY ENGINEER IMMEDIATELY IF ACTUAL FIELD CONDITIONS DIFFER FROM INFORMATION INDICATED ON THE DRAWINGS.
3. REFER TO ELECTRICAL FLOOR PLANS FOR PANEL LOCATIONS.
4. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
5. ALL NEW DEVICES IN EXISTING GEAR SHALL BE UL LISTED FOR THE EQUIPMENT, BE OF THE SAME MANUFACTURER AND WITHSTAND RATING.

KEY NOTES ⟨X⟩ (THIS SHEET)

1. CONTRACTOR SHALL TAP EXISTING 2000A MAIN DISTRIBUTION BOARD AND PROVIDE DUAL FEED LUGS TO FEED (1) 100A FUSED DISCONNECT SWITCH FOR THE NEW PANEL S1. CONTRACTOR SHALL VERIFY IF THE EXISTING BUS CURRENTLY HAS UNUSED TAPS BEHIND THE 400A SOLAR PANEL DEAD FRONT. IF THE BUS HAS UNUSED TAPS, THE CONTRACTOR MAY USE THESE TAPS. IF THERE ARE NO TAPS, PROVIDE TAPS AND VERIFY FINAL LOCATION OF THE BUS TO BE TAPPED WITH OWNER PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE NEW 100A, 120/208V, 3Ø, 4W PANELBOARD WITH 100A MAIN BREAKER, AND MINIMUM OF 10KAIC RATING. PROVIDE PANELBOARD WITH 42 POLE SPACES.
3. ADD ALTERNATE: PROVIDE NEW 100A, 120/208V, 3Ø, 4W PANELBOARD WITH 60A MAIN BREAKER, AND MINIMUM OF 10KAIC RATING. PROVIDE PANELBOARD WITH 24 POLE SPACES.
4. ADD ALTERNATE: CONTRACTOR SHALL TAP EXISTING 2000A MAIN DISTRIBUTION BOARD AND PROVIDE DUAL FEED LUGS TO FEED (1) 60 AMP FUSED DISCONNECT SWITCH FOR THE NEW PANEL S2. CONTRACTOR SHALL VERIFY IF THE EXISTING BUS CURRENTLY HAS UNUSED TAPS BEHIND THE 400A SOLAR PANEL DEAD FRONT. IF THE BUS HAS UNUSED TAPS, THE CONTRACTOR MAY USE THESE TAPS. IF THERE ARE NO TAPS, PROVIDE TAPS AND VERIFY FINAL LOCATION OF THE BUS TO BE TAPPED WITH OWNER PRIOR TO COMMENCEMENT OF WORK.

LOAD SUMMERY

EXISTING PEAK DEMAND LOAD	555.0A
EXISTING PEAK DEMAND LOAD X 125%	693.9A
NEW ADDED LOAD	110.0A
TOTAL LOAD	803.9A
EXISTING SERVICE	2000A

MECHANICAL EQUIPMENT SCHEDULE

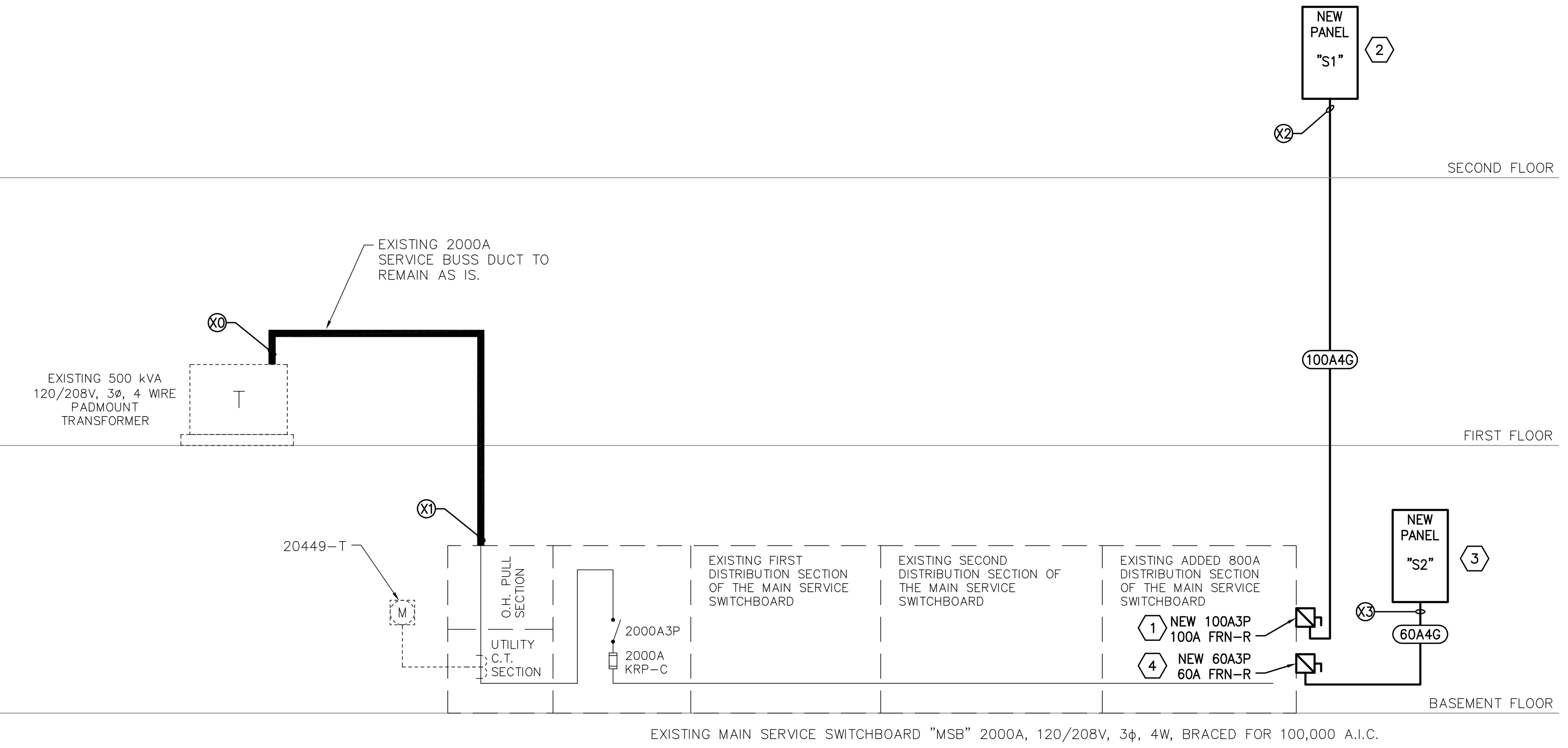
KEY	ITEM	LISTED LOAD HP	FLA	KW	EQUIV. LOAD (VA)	VOLTS	PH	FEEDERS CONDUCTORS	CONDUIT	DISCONNECT DISC SW	FUSE	NEMA STARTER SIZE	CIRCUIT NUMBER	NOTES
EF-1	EXHAUST FAN	1/2			1176	120	1	2 # 8, 1 # 8 G	3/4	STO	N/A	N/A	S1/11	1
EF-2	EXHAUST FAN	1			1914	208	1	2 # 12, 1 # 12 G	3/4	30 A 2 P	15	0	S1/13,15	
EF-3	EXHAUST FAN	1			1914	208	1	2 # 8, 1 # 8 G	3/4	30 A 2 P	15	0	S1/17,19	
EF-4	EXHAUST FAN	1			1914	208	1	2 # 6, 1 # 6 G	3/4	30 A 2 P	15	0	S1/21,23	
EF-6	EXHAUST FAN	1/6			528	120	1	2 # 12, 1 # 12 G	3/4	STO	N/A	N/A	S1/5	1
EF-7	EXHAUST FAN	1/6			528	120	1	2 # 12, 1 # 12 G	3/4	STO	N/A	N/A	S1/27	1
B-1	BURNER		8.5		3500	208	3	4 # 12, 1 # 12 G	3/4	30 A 3 P	20	N/A	PP1/1,3,5	2
B-2	BURNER		8.5		3500	208	3	4 # 12, 1 # 12 G	3/4	30 A 3 P	20	N/A	PP1/7,9,11	2
B-3	BURNER		8.5		3500	208	3	4 # 12, 1 # 12 G	3/4	30 A 3 P	20	N/A	PP1/13,15,17	2
B-4	BURNER		8.5		3500	208	3	4 # 12, 1 # 12 G	3/4	30 A 3 P	20	N/A	PP1/19,21,23	2
GWH-1	GAS WATER HEATER		9		1080	120	1	2 # 12, 1 # 12 G	3/4	STO	N/A	N/A	PP1/25	1
GWH-2	GAS WATER HEATER		9		1080	120	1	2 # 12, 1 # 12 G	3/4	STO	N/A	N/A	PP1/27	1

NOTES:
1. PROVIDE SINGLE-POLE, FRACTIONAL HORSEPOWER MANUAL STARTER WITH OVERLOAD PROTECTION. SIZE PER NAMEPLATE RATING OF UNIT.
1. PROVIDE FIELD WIRING TO CONTROLLER AND EQUIPMENT.

FEEDER SCHEDULE

KEY		SETS	"C	CONDUCTORS								REMARK
100A4	G		1-1/2	4 #	1	,	1 #	8	G			
60A4	G		2	4 #	1/0	,	1 #	6	G			1

NOTES:
1. CONDUCTORS UPSIZED FOR VOLTAGE DROP.



1 PARTIAL ELECTRICAL ONE-LINE DIAGRAM
SCALE: 1/8" = 1'-0"

meGROUP
707 17th Street, SUITE 3000
DENVER, CO 80031
T: 303.382.1920
F: 303.382.1930
www.megroup.com
Job #: 871.003
High Performance Building Consultants

NO.	DATE	DESCRIPTION OF REVISION	AUTHORITY	MADE	APPR'D.
	04/07/14	ISSUE FOR BID AND CONSTRUCTION			

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
SCHOOL DISTRICT NO. 1 SCHOOL NO. 408 SITE NO. 091 DENVER, CO

KEPNER MIDDLE SCHOOL
PARENT PROJECT ID: 2216
911 S. HAZEL CT. DENVER, CO 80219

DENVER PUBLIC SCHOOLS
DEPARTMENT OF FACILITY MANAGEMENT
APPROVED CONTRACT DOCUMENT
DATE:

DESIGNED BY: MEG
DRAWN BY: MEG
CHECKED BY: MEG
DATE: 04/07/17
SCALE: AS NOTED

ELECTRICAL ONE-LINE DIAGRAM

Cuningham Group Architecture, Inc.
601 S. Broadway, Suite N
Denver, CO 80209
www.cuningham.com
Tel: 303 861 1600
Fax: 303 861 1602

Copyright © 2013 by Cuningham Group Architecture, Inc. (All Rights Reserved)

DWG NO. E400